Nova Scotia

Department of Agriculture and Marketing

Annual Report
for the fiscal year
ended March 31, 1982

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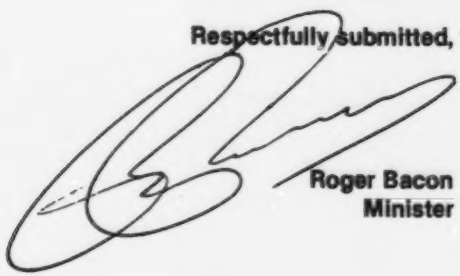
His Honour,
The Honourable John E. Shaffner
Lieutenant-Governor of Nova Scotia

May It Please Your Honour:

I have the honour to submit the Annual Report of the Department of Agriculture and Marketing for the fiscal year ended March 31, 1982.

Respectfully submitted,



Roger Bacon
Minister

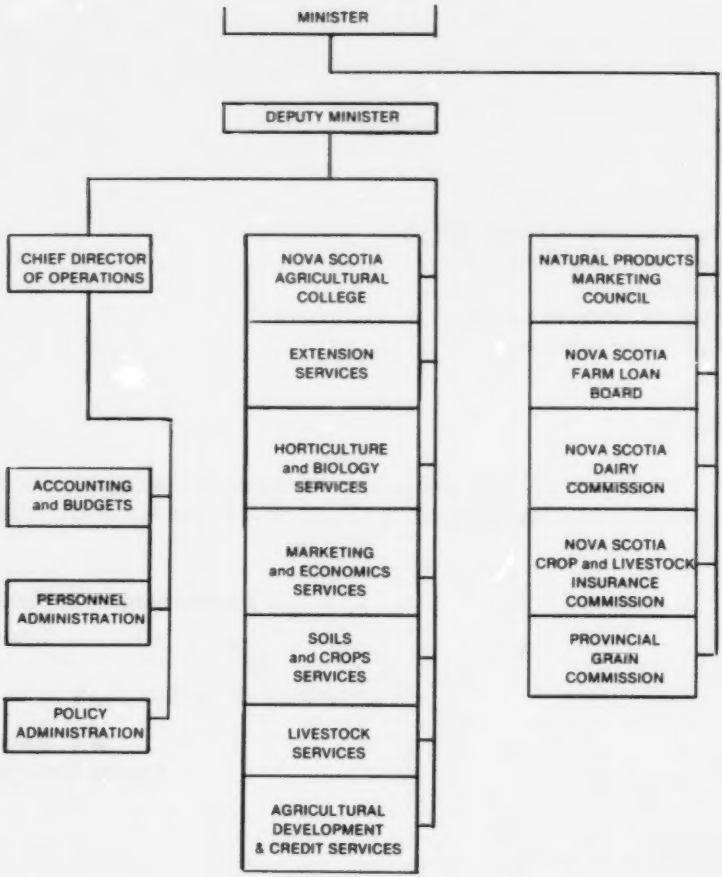
The Honourable Roger Bacon
Minister of Agriculture
and Marketing
Province of Nova Scotia
Halifax, Nova Scotia

Dear Sir:

I have the honour of presenting the Report of the Department of Agriculture and Marketing for the fiscal year ended March 31, 1982.

Respectfully submitted,

W.V. Grant
Deputy Minister


MINISTER
DEPUTY MINISTER
CHIEF DIRECTOR OF OPERATIONS
ACCOUNTING and BUDGETS
PERSONNEL ADMINISTRATION
POLICY ADMINISTRATION
NOVA SCOTIA AGRICULTURAL COLLEGE
EXTENSION SERVICES
HORTICULTURE and BIOLOGY SERVICES
MARKETING and ECONOMICS SERVICES
SOILS and CROPS SERVICES
LIVESTOCK SERVICES
AGRICULTURAL DEVELOPMENT & CREDIT SERVICES
NATURAL PRODUCTS MARKETING COUNCIL
NOVA SCOTIA FARM LOAN BOARD
NOVA SCOTIA DAIRY COMMISSION
NOVA SCOTIA CROP and LIVESTOCK INSURANCE COMMISSION
PROVINCIAL GRAIN COMMISSION

NOVA SCOTIA AGRICULTURAL COLLEGE

OVERVIEW

During the 1981-82 academic year, the curriculum for the full B.Sc. (Agr.) program was finalized and the revised curricula for the technician and technology programs were implemented. Planning continued for both the expansion of physical facilities and staff to permit the introduction of the third year of the degree program in September, 1983.

In October, 1981, construction began on the new library building, with a completion date scheduled for November 30, 1982. Detailed plans for the expansion of the Cox Institute were finalized with anticipated construction to start by the fall of 1982. Preliminary plans for the expansion of the Boulden Building were developed.

COURSES OFFERED

The following is a summary of courses offered at the College:

Degree

B.Sc. (Agr.) — For the first time students were registered in a full four-year degree program. Specialization is offered in:

- Agricultural Economics
- Animal Science
- Plant Protection
- Plant Science

Pre-Vet. — The first year of a pre-veterinary program.

B. Eng. — Three years leading to an Agricultural Engineering specialty.

Technician

Work is offered in five fields:

(a) Agricultural Business
(b) Agricultural Mechanization
(c) Animal Science
(d) Farm Equipment
(e) Plant Science

Technology

Work is offered in three areas for students coming directly from high school:

(a) Biology Laboratory Technology
(b) Chemistry Laboratory Technology
(c) Ornamental Horticulture Technology

There are two technology courses for students coming from the Technician programs:

(a) Agricultural Technology
(b) Farming Technology

REGISTRATION

Degree Courses

1981-82	Agricultural Science	Agricultural Engineering	Total
First Year	94	10	104
Second Year	68	5	73
	162	15	177

1981-82	Technician Courses	Technology Courses	Total
First Year	91	37	128
Second Year	76	33	109
	167	70	237

1981-82	Farming Technology Courses	Transfer Students	Total
	7	4	11

There were fourteen special students and fourteen part-time students.

VOCATIONAL PROGRAM

Vocational courses have been designed to assist men and women

enter or progress in farm or farm-related careers. Forty-two separate courses were offered during the year on thirty-one topic areas, with a total of 550 persons enrolled.

The Canada Employment and Immigration Commission sponsored 49.1 per cent of the students enrolled by paying the tuition costs and, on courses over ten days in duration, a training allowance. Seventeen of the courses were over ten days in length. The number sponsored by the Canada Employment and Immigration Commission has decreased each year since 1975-76, when 85.5 per cent were sponsored. The total student training days of sponsored students was 5,341, representing 56.4 per cent of the 9,470 student training days this year and indicating that a higher percentage of students was sponsored on the longer courses. In the preceding year, there was a total of 9,589 student training days. This is the sixteenth year that these courses have been offered.

Of the participants, 71.3 per cent were from Nova Scotia. Details on enrollment can be seen in the tables below:

Province	Number of Students			% of Total Students		
	1979-80	1980-81	1981-82	1979-80	1980-81	1981-82
Nova Scotia	495	544	392	78.3	75.1	71.3
New Brunswick	81	86	95	12.8	11.9	17.3
Prince Edward Island	39	50	36	6.2	6.9	6.5
Newfoundland	16	38	15	2.5	5.3	2.7
Other	1	6	12	0.2	0.8	2.2
	632	724	550	100.0	100.0	100.0

In conducting these courses, the College's staff was supplemented by organizational and lecture assistance from many sources, with the Nova Scotia Department of Agriculture and Marketing being the major contributor. Guest instructors for many topics are recruited from various services, business firms and private entrepreneurs.

RESEARCH PROJECTS

A total of 44 projects were approved by the Research Committee. The statistical summary of funding is as follows:

Source	Projects	Funds $'000
N.S. Department of Agriculture and Marketing	33	154
Agriculture Canada and NRC	7	66
Industry Contracts and Grants	4	7
Total	44	227

Further information on these projects can be found in the 1981 Research Report. Contact Dr. L. M. Cock, Chairman, Research Committee, Nova Scotia Agricultural College, Truro.

COLLEGE FARM

Crops

The 1981-82 crop year marked the beginning of a detailed five-year plan for all of the farm fields. The primary objective is to renovate and manage more intensively the existing fields in an effort to optimize production. Annual rye grass was seeded for the first time in fields 101 and 223, totalling approximately 9 ha. Field 101 was grazed as late as December, 1981. Approximately 52 ha were cut as hay, 17 ha for grass silage and 17 ha for corn silage. Approximately 17.5 ha were seeded to oats (8 ha), fall rye (6 ha) and barley (2.5 ha).

Livestock

Visitors to the livestock units tend to be increasing in numbers. The majority are school children from around the province, but there have also been a number of visitors from foreign countries. Livestock numbers as of March 31 were:

Dairy Cattle	
Ayrshires	56
Holsteins	61
Beef Cattle	
Herefords	42
Shorthorns	57
Sheep	165
Swine	252
Poultry	5,136

Dairy B.C.A. rolling herd averages as of March, 1982, were M170

F175 for Ayrshires and M163 F162 for Holsteins. Both breed averages were above those of the previous year. The Holstein herd also won the 1981 Dickie Trophy for the highest composite B.C.A. in a herd of under 20.

Forty-nine beef cows calved in the spring of 1981, with 48 calves resulting and surviving. Four bulls, calved in 1981, were on test at Nappan, with resultant rate of gain indices from 76 to 107. Of the four, two shorthorns sold in the end-of-test sale in April for $1,050 and $1,200.

The sheep flock started with 110 ewes of four different cross-bred types and, divided into either a traditional or intensively managed flock, had their first lambs in April and May of 1981. The intensively managed flock lambed again in December and January. The spring lamb crop yielded 69 marketable lambs. In the intensively managed flock, 36 of the 53 ewes exposed to the ram yielded 50 lambs.

In the swine unit, extensive culling resulted in a decrease in sow numbers to an average of 22 sows. Fifty litters were born with an average of 9.9 live pigs per litter and weaning 8.6. Both the number of days to market and the grade index on the 329 market hogs sold were very good.

AGRICULTURE AND RURAL CREDIT BRANCH

NOVA SCOTIA FARM LOAN BOARD

Overview

During the year under review, the Board met on ten occasions encompassing thirty days. Loan activity continued at a high level, reflecting further farm development programs and increased interest by young farmers to follow agriculture as a career. The number of loan approvals increased from 402 to 425, although the dollar volume decreased slightly from $22,189,246 to $21,572,949. During the past four years, loan activity has increased from $10.9 million to $21.6 million, and loan approvals have increased from 276 to 425.

The regulations affecting Board operations were amended. The changes increased Board lending authority from $200,000 to $300,000 before requiring Cabinet approval and increased interest rates to reflect higher costs of borrowing at all levels. Nevertheless, even with the increased interest rates, the Board is still authorized to provide development credit with a higher degree of subsidization than has historically been the case.

In addition to its loan function to agriculture and owners of forest product mills, staff of the Farm Loan Board administered policies of reduced interest and assistance to new, young farmers. The staff of the Board purchased and administered properties for lease to qualified individuals at the request of the Land Purchase and Lease Committee. The administration of property purchased under ARDA Project 22015 in the period 1965–71 was a continuing responsibility.

The Board approved 425 new and additional loans totalling $21,572,949. There were 164 new loans totalling $11,838,600 and 261 additional loans totalling $9,734,349.

The following is a breakdown of new loans by categories:

Category	Number	Amount
Commercial	63	$6,192,350
Young Farmer	34	3,232,400
Part-time	67	2,413,850
	164	$11,838,600

In addition, 71 applications for loans in the amount of $6,035,150 were rejected due to the inability of the applicants to meet the requirements of the Board.

The following table provides a complete breakdown of the purposes for which the monies were loaned:

Loan Purpose	Amount
Purchase of Farm — Commercial	$6,192,350
Purchase of Farm — Young Farmer	3,232,400
Purchase of Farm — Part-time	2,413,850
Building Construction or Renovation:	
- Beef	180,500
- Dairy	1,928,350
- Hogs	1,414,900
- Poultry	204,000
- Fruit and vegetable	110,600
- Other livestock	357,740
- Other farm buildings	1,873,100
- Silos	347,690
- Manure storage	280,800
Land Purchase or Development	1,455,700
Machinery and Equipment	200,300
Livestock and Quota	372,869
Indebtedness	1,007,800

"Other farm buildings" includes loans made to mink ranchers, greenhouse operators, and for grain drying and storage facilities, farm homes and special purpose buildings.

The following is a breakdown of new and additional loans by counties for the period under review:

New and Additional Loan Approvals by County as of March 31, 1982

County	No. New	Amount	No. Add.	Amount	Total
Annapolis	7	274,900	12	499,500	774,400
Antigonish	16	952,600	27	1,175,030	2,127,630
Cape Breton	3	246,500	5	112,000	358,500
Colchester	36	2,856,950	34	879,599	3,736,549
Cumberland	21	1,349,750	22	645,900	1,995,650
Digby	3	122,000	16	566,140	688,140
Guysborough	2	66,300	2	56,000	122,300
Halifax	4	417,500	11	376,450	793,950
Hants	30	2,421,400	32	1,489,600	3,911,000
Inverness	1	30,000	11	297,000	327,000
Kings	16	1,252,250	57	2,654,489	3,906,739
Lunenburg	4	325,500	4	88,000	413,500
Pictou	18	1,392,950	18	649,700	2,042,650
Queens	—	—	3	25,750	25,750
Richmond	1	45,000	—	—	45,000
Victoria	—	—	2	42,000	42,000
Yarmouth	2	85,000	5	177,190	262,190
Shelburne	—	—	—	—	—
	164	11,838,600	261	9,734,348	21,572,948

FARM LOAN STATISTICS

	1981-1982	1980-1981
Total Number of Accounts	1,647	1,579
Loans Paid Off During Year	96	101
Loan Balances	98,987,433	84,033,215
Total Receipts During Year	15,329,190	12,688,027
Principal	7,682,872	6,663,644
Interest	5,811,123	4,651,570
Life Insurance	355,633	343,635
Rental Reserve and Real Estate	36,217	55,035
Miscellaneous	1,443,345	974,143
Arrears of Payments (March 31/82)	1,772,866	1,852,955
Death and Disability	4	9
Amount	89,414	269,236
Total Value of Life Insurance	87,018,063	73,647,968
Board Meetings		
Number	10	10
Days	30	31

TIMBER LOANS OPERATION

The Board approved six applications for loans to assist owners of forest product mills in the purchase of forest land. The number of loans outstanding in 1981-82 was 57. The total amount outstanding was $925,046.04, compared to $745,957.92 in the previous year.

The staff of the Farm Loan Board is responsible for administrative detail with respect to receiving applications, preparing documents, loan disbursement and loan records. Personnel of the Department of Lands and Forests carry out loan appraisals and prepare reports and recommendations. In addition, they supervise requests to cut forest products from land held as security for loans and establish stumpage rates for material removed.

TILE DRAINAGE LOANS

Loans were made by the Board to assist farmers in increasing the productivity of land through tile drainage. The number of loans outstanding in 1981-82 was three compared to six in the previous year. The total amount outstanding was $207.59.

FARM CONSOLIDATION AND LAND USE

In the period 1965-70, under the terms and conditions of a joint Government of Canada-Province of Nova Scotia ARDA Project, properties were purchased for leasing to enlarge commercial farm operations. The initial lease was for a term of five years with the leasee having the option to purchase or to renew the lease for a further term. The administration of properties under lease is a continuing responsibility of the Board.

There were 232 rental statements issued in October, 1981. The balance outstanding under this program as of March 31, 1981, was $896,913.37.

Thirteen leasees exercised their option to purchase leased property in the year under review.

LAND PURCHASE AND LEASE

The Nova Scotia Department of Agriculture and Marketing continued the program of land purchase and leasing that was introduced in the 1974-75 fiscal year. The Farm Loan Board, at the request of the Land Purchase and Lease Committee, carries out the administrative details involved in the purchase, lease and administration of these properties.

There were 57 properties purchased at a cost of $1,758,014 in the year under review. In total, 279 properties have been purchased and developed since the inception of the policy. The current outstanding cost of the properties is $8,718,789.41.

INTEREST SUBSIDY POLICY

The Board continued to have responsibility for the administration of the Interest Subsidy Policy of the Nova Scotia Department of Agriculture and Marketing. The following amounts were disbursed to qualified borrowers from the Farm Loan Board, Farm Credit Corporation and the Veterans' Land Act in the period under review.

Agency	Number	Amount
Nova Scotia Farm Loan Board	1010	$894,757.19
Farm Credit Corporation	158	103,471.60
Veterans' Land Act	17	4,143.81
	1,185	$1,002,372.60

BENEFIT TO NEW YOUNG FARMERS

The policy of two years interest forgiveness to new young farmers, introduced by the Department of Agriculture and Marketing in the 1974-75 fiscal year, was continued in 1981-82.

Benefits in the amount of $362,396.63 were made to 47 applicants who qualified in the first year of their eligibility. There were 52 qualified applicants in their second year of eligibility and the benefits totalled $365,811.75, for a total benefit during the 1981-82 fiscal year of $728,208.38.

Agency		Number	Amount
Nova Scotia Farm Loan Board	Year 1	47	$362,396.63
	Year 2	49	338,807.75
Farm Credit Corporation	Year 1	—	—
	Year 2	3	27,004.00
Total			$728,208.38

LIVESTOCK BRANCH

OVERVIEW

The Livestock Branch provides services to the total livestock industry in three general areas: (1) expertise in feeding, breeding and management through livestock and poultry specialists; (2) rapid and accurate diagnosis of animal diseases for veterinarians and farmers through specially trained veterinarians; and (3) regulation, production, distribution and sale of milk through the Dairy Commission staff.

The total livestock industry was faced with unprecedented input costs in 1981, and high interest rates and feed costs were of major concern. The red meat sector was the most severely affected. Beef producers, in particular, experienced low prices throughout 1981.

During the year, under the Beef Herd Improvement Policy, a total of 2,601 females were bonused from 330 herds for a total assistance of $421,050.00. Most provinces had instituted some form of assistance for their beef industry.

The sheep industry also faced low prices, which were partly caused by an influx of fresh New Zealand lamb. Restrictions were placed on these imports for 18 months by the federal government. For the first time, an organized marketing approach was attempted by the Northumberland Sheep Producers. They were able to supply 1,238 uniform quality lambs at a reasonable price to a major chain.

DEVCO and the province purchased a flock infected with Pulmonary Adenomatosis and, with the cooperation of Agriculture Canada, will investigate whether the disease is spread from ewe to offspring.

Under the Sheep Production Policy, the total assistance paid out was $36,755.00; Sheep Pasture Improvement, $31,058.09; and Improved Sire Policy, $3,654.00.

The swine industry was plagued by low prices but was able to maintain the number of producers and programs mainly because of the Pork Stabilization Program. A total of 292 producers are enrolled on this program, representing 90 percent of total production. The province still leads the rest of Canada in the quality of hogs marketed.

One of the top programs is the Swine Herd Health Program, with 90 pork producers enrolled, utilizing the services of nine local

veterinarians. Cooperative swine research continued at Nappan during 1981, with housing and management factors being assessed.

The dairy cattle sector represents the largest single segment of the livestock industry. The number remained fairly constant due to M.S.Q. limitations. Dairy cattle breeding stock prices were down slightly throughout the year. The D.H.A.S. program continues to grow, with 204 producers in the owner-sampler program.

The Nova Scotia Dairy Commission reports 675 producers as of January, 1981. During the year, 29 producers left the industry, seven new producers commenced shipping fluid milk and three transferred from manufacturing to fluid, making a net figure as of December, 1981, of 656 producers.

Farm sales from fluid producers, industrial producers and cream shippers, as milk, were 176 228 474 litres, an increase of 1.1 percent over the previous year. The Market Share Quota Program deliveries of butterfat for the twelve-month period ending July 31, 1981, amounted to 2 290 823 kg of butterfat. This amount was 4 percent less than the previous twelve-month period and 3 percent in excess of the Nova Scotia Market Share Quota allotment. With the end of the year reconciliation process, quota credits from Ontario and Quebec enabled producers to recover over-quota levies. The production incentive on manufacturing milk amounted to a payment of $1.8 million for the fiscal year.

The dairy laboratory maintained its A level under the Federal Dairy Division laboratory certification program for skim milk powder. Total laboratory tests related to milk quality numbered 41,076. The five Dairy Fieldmen made 670 initial farm inspections, 4,403 farm calls and 819 visits to dairy plants.

The poultry industry segments are all under supply management systems. The poultry commodities under supply management have provided for more stability to their respective industries than commodities not encompassed by supply management. The total cash farm income from the poultry industry is $43,150,500.

The veterinary staff and laboratory facilities support all branches in the Department of Agriculture and Marketing and provide diagnostic services to the Department of Lands and Forests. Laboratory submissions for all species in 1981 totalled 9,181. The Livestock Health Services Program assisted 45 veterinarians in 17 practices working under 23 Livestock Health Services Boards; $1,017,500.00 was budgeted for this program. Other programs to

assist the livestock owners are the Herd Health Program for swine and the pilot project for dairy and sheep herd health. The Veterinary Section provides expertise to the large animal, poultry and fur industries.

BEEF

Production

The following table outlines the total cattle population as of January 1, 1982, with previous estimates given for comparison purposes:

Nova Scotia Cattle

	January 1982	July 1981	January 1981
Bulls	1,600	2,000	1,500
Milk Cows	35,700	35,300	36,000
Beef Cows	26,300	27,500	25,300
Milk Heifers	12,700	12,700	12,700
Beef Heifers	6,700	7,800	6,400
Slaughter Heifers	3,300	4,700	3,200
Steers Over One Year	9,300	12,000	8,900
Calves Under One Year	34,400	37,000	33,000
Total	130,000	139,000	127,000

This table shows that the number of beef heifers and calves have increased, indicating a holdback of replacement beef cattle.

Prices

Slaughter cattle prices remained low throughout 1981. A1, A2 steers averaged $70.00/cwt. at the Truro Sale, compared to $75.00/cwt. in 1980. During the same period, D1, D2 cows sold at $52.00/cwt., compared to $56.50 in 1980.

In 1981, two feeder cattle sales were held in Truro. The average price at the October sale was 68.44¢ per pound, while at the November sale the price averaged 59.98¢ per pound. The overall average for both sales on 1,795 cattle was 65.38¢ per pound.

Average Price — Truro Feeder Sale

1976	1977	1978	1979	1980	1981
$32.74	$32.36	$72.36	$82.51	$80.90	$65.38

Choice and good steer calves averaged 70.73¢ per pound, compared to 86.55¢ per pound in 1980. Quality was extremely good at both sales. The sales returned a total of $612,000.00 for the 937,000 pounds of beef sold.

Improved Sire Policy

Assistance was paid on the purchase of bulls during the year as follows:

	1978	1979	1980	1981
Purebred Herd Sires	23	24	32	28
Commercial Herd Sires	119	125	132	131
Total Assistance Paid	$31,320	$33,800	$51,650	$37,175
Value of Bulls	$126,265	$185,260	$205,367	$246,005

All bulls must be performance tested either at home or at the Maritime Beef Cattle Test Station and meet minimum standards for rate of gain and yearling weight. This has helped to reduce time spent on selection and inspection of bulls. This policy has also helped to educate producers in the use of performance records and their application to practical breeding programs.

Beef Herd Improvement Policy

This policy was developed in 1979 in cooperation with the Beef Producers' Association and the Nova Scotia Federation of Agriculture. The policy is designed to restructure, improve and develop cow-calf herds through the payment of a bonus on heifer calves purchased, or selected, as replacement females. Response to this policy has been good.

Total Applications Processed, 1981	330
Total Females Bonused	2,601
Total Assistance Paid	$421,050.00

Performance Testing

We continue to participate in the Federal-Provincial R.O.P. Beef Pro-

gram, with 155 herds enrolled on the Home Test Program. This program is designed to assist breeders in selecting replacement heifers and herd sires on the basis of rate of gain. It is a very valuable aid in a selection program.

In addition, the Maritime Beef Cattle Test Station continues to operate on a year-round basis at Nappan. Since 1966, over 1,724 bulls have been tested at Nappan.

Community Pastures

The Community Pasture at Cape John reported a decrease in numbers pastured in 1981 compared to 1980, while an increase was reported for the Cape Mabou Pasture for cattle, but a decrease for sheep was noted.

The Cape John pasture had 562 head of cattle and 322 sheep and lambs entered. The cattle did very well on pasture, with an average daily gain of 1.90 pounds. No disease or management problems were encountered. Sheep performance was also considered to be very satisfactory.

The Cape Mabou pasture had 444 head of cattle and 268 sheep and lambs entered. Cattle performance was excellent. An average daily gain of 1.97 pounds was reported for cattle on this pasture. Sheep and lamb performance was satisfactory.

The Minudie Pasture continued to operate under the lease agreement with Wayne Woolfitt, and 671 head of cattle were pastured for 15 patrons. Cattle performance was excellent at this pasture during 1981.

The five Co-operative Pastures located at L'Ardoise, Cheticamp, Glendale, Manchester and Digby were operated under the management of local co-operatives.

SWINE

Production

A total of 209,324 hogs were marketed through federally inspected plants in 1981. This was an increase of 12.2 percent over 1980. The average weekly price for 100 index hogs over the year was $68.21 per cwt. The gross sale value of these hogs was in the area of $25,000,000.00.

Hog Quality

The following is a comparison of how Nova Scotia hogs indexed in relation to the Canadian average in 1979, 1980 and 1981:

	Index 102+			Index 105+			Index 108+		
	1979	1980	1981	1979	1980	1981	1979	1980	1981
Canada	66.6	65.6	67.4	33.1	33.3	35.0	8.2	8.6	9.4
Nova Scotia	78.6	80.1	74.9	49.4	49.7	49.0	16.2	16.6	16.0

As shown by the figures, there was a decrease in the percentage of hogs reaching the higher index levels in 1981. This was due in large measure to the inability of the major packing plants to handle the available volume of hogs. Producers had to ship hogs both in lighter and heavier weights due to this marketing problem. To obtain the best possible index weight at time of slaughter is very important. However, in spite of this difficulty, Nova Scotia pork producers continued to lead other provinces in Canada in the quality of hogs marketed.

Swine Herd Health Program

There are now 90 pork producers enrolled in our Swine Herd Health program, utilizing the services of nine local veterinarians. Visiting producer herds on a regular basis has resulted in improving the overall management and health situation in our swine herds. This program becomes of even greater importance during periods of low pork prices, when top performance is so necessary.

Nova Scotia Pork Price Stabilization Program

A total of 292 pork producers are enrolled in this program, representing 90 percent of our total production. This program has been very valuable in maintaining our industry through the continued low price period since 1979. Without this program, many of our producers would have found it very difficult to survive due to the current economic conditions.

Swine Breeding Stock Sales

There was a much lower demand for swine breeding stock in 1981 due to depressed pork prices. The value of animals sold in 1981 through the Nova Scotia Swine Breeding Stock Sales Society amounted to $60,000.00. Recently, the Sales Stock Society, with the support of Agriculture Canada and Industry, Trade and Commerce, was able to send a representative to explore export opportunities in

the Dominican Republic, Venezuela, and Jamaica. We are fairly optimistic that this will result in sales to these areas.

SHEEP

Production

In 1981, a group was formed by the Northumberland Sheep Producers, their main objective being to organize lamb marketing and return to producers the highest dollar possible. From June to December, 1,238 lambs were sold, and the average cash return to producers was $65.90 per lamb.

A Flock Health Pilot Project was set up in 1981 to see how producers would accept this concept to upgrade flock health. To date, this project has been accepted quite well and there has been interest from all areas of the province.

Sheep numbers in Nova Scotia, as recorded by Statistics Canada on July 1, 1981, were 40,000, a decrease of 2,000 from the previous year.

Lamb and mutton prices were lower than in 1980. Good market lambs, 80 pounds and up, were selling at an average price of 70.8¢ (1980 - 76.5¢) per pound live weight, and 60-80 pound lambs averaged 69.3¢ (1980 - 88.71¢) per pound, live weight. Sheep, choice and good, averaged $50.67 per head (1980 - $59.98). The above prices were the average prices paid in 1981 at the Maritime Cattle Market sales, representing approximately 5,452 lambs and 2,523 sheep.

One Feeder Lamb sale was held in 1981 in Mabou, Cape Breton. There were 999 sheep and lambs sold for a gross of $32,051.87.

Breeding Stock

The annual Sheep Fair Breeding Stock sale grossed lower than in 1980 and 1979.

	1981		1980		1979	
	No.	Average	No.	Average	No.	Average
Ewe Lambs	219	$63.75	803	$96.67	529	$103.72
Yearlings	125	81.72	120	175.04	112	147.83
Two-Year-Olds	74	78.15	43	131.76	51	145.20
Mature Ewes	160	49.36	149	95.76	127	112.77
Rams	52	190.00	62	205.50	71	176.37

The gross sale was $48,484.45, compared to $116,585.59 in 1980.

POULTRY

Production

The Nova Scotia Poultry Industry is divided into five economic production divisions, although they may overlap. These are: (1) Egg Production; (2) Pullet Production; (3) Broilers - (a) Cornish chicken, (b) light, (c) regular, and (d) roasters; (4) Turkeys - (a) broilers, (b) hens, (c) toms; (5) Hatchery.

In Nova Scotia, we have eight registered hatcheries. Two of these produce approximately 90 percent of the total meat chick placements. The egg segment has 52 registered producers who produced a little more than 17 million dozen eggs. We have 21 commercial pullet producers, and the total pullet production in Nova Scotia is close to 865,000 if we use chick placement permits as a guideline. There are indications that production is greater than these permits identify.

Nova Scotia's registered chicken producers grew approximately 30.5 million pounds (eviscerated weight) of chicken. Eleven registered turkey producers grew 425,000 turkeys, or 3.7 million pounds (eviscerated weight).

Income from such enterprise is as follows:

*Cash Farm Income		
	Eggs	$13,000,000.00
	Chickens	20,605,000.00
	Pullets	3,500,000.00
	Turkeys	2,920,500.00
	Fowl	125,000.00
	Hatchery Chick Sales	4,000,000.00
	Total	$44,150,500.00

*Estimate Only

BLOOD TESTING PROGRAM

The blood testing program consists of testing broiler breeder flocks status (+ or -) for infectious bursal disease (I.B.D.) and Reo Virus antibodies at 6 and 10 weeks of age. At 22 to 24 weeks of age, they are tested for pullorum mycoplasma gallisepticum (M.G.) and mycoplasma synovial (M.S.) status. All broiler breeder flocks tested were positive for I.B.D. and Reo and negative for pullorum, M.S. and M.G. Egg layer strain breeders are tested at 16 weeks for M.S. and M.G. and at 24 weeks for pullorum and I.B.D. The commercial layer pullets are tested at 16 weeks for M.S., M.G. and I.B.D. If they are destined for Newfoundland, they are also tested for pullorum at the same time. We are striving to get M.G. negative status for all our

layer flocks in Nova Scotia. Some multi-age flocks in the province are still positive. The initial push has been quite a success and has resulted in numerous farms changing status. With this comes an increase of approximately 5 percent in peak production in most cases.

Changes in federal health requirements will enable us to become a pullorum-free region and, at that time, we will no longer test for pullorum. Our extensive blood testing program should enable us to become one of the first provinces declared pullorum free. We have historically done a 100 percent testing of exhibition flocks for pullorum when we vaccinate them for infectious laryngotracheitis (I.L.T.) Thus, unlike the other provinces, we know exactly what status our exhibition flocks have. In 1981, we tested almost 6,000 birds in this program, which is over 1,500 more than in the previous year. An explanation for the dramatic increase is that the 4-H clubs brought in 1,000 Plymouth Barred Rocks from Ontario. A man in the Goshen area, who has a type of domestic bird sanctuary, then began to test his flock of over 500 birds.

In 1981, there were two outbreaks of I.L.T. One of the cases involved over 500 birds and the other about 150. Both flocks were eradicated and the owners compensated. A campaign was initiated to raise funds to cover the eradication expenses and the response was excellent.

DAIRY

Production

Nova Scotia dairy farmers had another good year in 1981. The number of dairy cattle was down slightly compared to 1980 figures. The downward trend was due mainly to the M.S.Q. situation and the fact that expansion is now very limited in the dairy sector.

A number of dairy farmers found themselves in a penalty situation regarding over-production of their M.S.Q., but with reallotment of quota and some additional quota made available all penalty monies were paid back to those producers.

Milk production in the province showed a slight increase in 1981 on a production per cow basis. A decrease in fluid sales was seen in 1981, compared to 1980.

Dairy cattle sales in 1981 were lower in average price received, compared to 1980 sales. Prices were down slightly at the beginning of the year and a downward trend was seen throughout 1981.

	January 1, 1981	July 2, 1981	January 1, 1982
Cows for Milk	36,500	36,000	36,000
Replacement Heifers	13,000	13,000	12,600
TOTAL	49,500	49,000	48,600

Milk Shipments and Utilization

Producer shipments to distributors amounted to 169 649 931 litres +1.4%.

		Percent Utilization
Utilized as Fluid Milk	108 109 782 l.	63.7%
Utilized as Other Purposes	61 540 149 l.	36.3%
Producer Blend Price	$38.784/hl inc.	10.6%

The dollar value of milk received by distributors was $65.8 million, an increase of 12.1%.

Production Incentive Program

This incentive program for manufacturing milk was continued in 1981 with a budget of $1.8 million. Incentive payments for the year commencing April 1, 1981 were $2.82 per hundred litres for manufacturing milk from fluid producers, $3.41 per hundred litres for manufacturing milk from industrial producers and 42.9¢ per lb. butterfat from farm-separated cream.

Payment under the program for the fiscal year ending March 31, 1981 was $1,800,003.75 and $1,823,035.62 for the 1981 calendar year.

Other Dairy Products

Creamery butter production increased 8.3 percent to a total of 1 697 946 kg in 1981 in licensed creameries.

The production of hard ice cream, sherbet and ice cream mix declined in 1981, but there were increases in the production of ice milk and milk shake mix.

Cheddar cheese production continued, and cottage cheese production, at 903 611 kg, increased 5.5 percent.

Dairy Herd Analysis Service

As of December 31, 1981, there were 204 herds in the Owner-Sampler D.H.A.S. program. This is an increase of seven herds over the same date last year. These 204 herds represent 10,641 cows, an increase of 6.92 percent over 1980.

As of December 31, 1981, the 179 herds that had completed at least 12 months in the program had a rolling herd average of 5 913 kg (13,036 lbs.) of milk, with a 3.45 percent butterfat test.

Production in 1981 increased slightly as compared to 1980 (53 kg - 117 lbs.). With a larger number of herds on test and restricted

M.S.Q., this increase was quite significant.

The Top Herd Average in 1981 was 807 kg (17,798 lbs.) — the highest ever. This herd has consistently been in the top five herds ever since enrolling in the D.H.A.S. program.

A new Early Pregnancy Diagnosis program was introduced in 1981 with the co-operation of the Chemistry Department at the Nova Scotia Agricultural College. This program, using the Milk Progesterone Analysis, is relatively new and requires another year of operation before it can be evaluated.

D.H.A.S. Summary

	1981	1980
Total Herds on D.H.A.S. — December 31, 1981	204	197
Total Cows on D.H.A.S. — December 31, 1981	10,641	9,952
Average No. of Cows per Herd	52.2	50.5

VETERINARY

The Veterinary Section works in the following areas:

(a) Collaborates extensively with the Food Production and Inspection Branch, Agriculture Canada, in disease control and Canada Domestic Inspection.

(b) Is responsible for the Livestock Health Services Program which operates under the Livestock Health Services Act and is carried out by local Livestock Health Services Boards. This program provides for the delivery of veterinary service to livestock owners.

(c) Is responsible for the Swine Herd Health Program which is available across the province. A small pilot Sheep Flock Health Program was started in the fall of 1981.

(d) Operates the Veterinary Pathology Laboratory, which processes specimens for producers and veterinarians from all animal species.

(e) Works closely, and often collaborates extensively, with other sections of the Livestock Services Branch (Livestock and Dairy Sections), other Branches of the Department (Extension, Soils & Crops) and other Departments of government (Health, Lands and Forests).

Livestock Health Services Program

This program is carried out under the Livestock Health Services Act by approximately 45 veterinarians in 17 practices working under 23 Livestock Health Services Boards. The number of veterinarians in large animal practice varies slightly throughout the year, but the

numbers have gradually increased over the past several years. This program is responsible for the delivery of veterinary service to livestock producers in Nova Scotia.

The number of services provided, kilometers driven and the payments to Livestock Health Services Boards are shown for 1980 and 1981:

Livestock Health Services Program 1980-81

Year	No. Clinic Calls	No. Farm Calls	Km Driven	Payment to Boards
1980	2,806	32,710	1 263 618	$ 891,006.00
1981	2,745	34,161	1 225 080	1,017,500.00

SWINE HERD HEALTH PROGRAM

The Swine Herd Health Program was made more comprehensive in 1980. The producer is entitled to one herd health visit per month. The Department of Agriculture pays the veterinarian's call fee and one-third of his hourly rate while he is on the farm. Not all producers request monthly visits. Some prefer bi-monthly visits and some want less frequent visits. The Department offers similar financial assistance to producers to encourage them to have post mortems done when pigs die in their herds. This is an opportunity that producers should take advantage of regularly. Producers are always welcome to have post mortems done at the Veterinary Pathology Laboratory.

The Herd Health Program is successful because of the continued cooperation of swine producers, veterinarians and swine specialists. There are 93 herds enrolled in the Swine Herd Health Program.

Sheep Flock Health Program

The Department initiated a pilot Sheep Flock Health Program in the fall of 1981. The veterinarian and the sheep specialist would visit each of the 12 flocks involved from one to four times per year, depending on need or circumstances. Also, all the producers met occasionally on one farm for discussions and demonstrations. The program has not been in effect long enough to be evaluated at this time.

Veterinary Pathology Laboratory

During 1981, the laboratory purchased two major pieces of equip-

ment. The "Histomatic" tissue processor is a closed histology system. It prevents the escape of toxic fumes and allows us to greatly increase the specimen load. The "Gilford" chemistry analyzer permits the rapid and accurate examination of serum samples for minerals and enzymes.

Laboratory Submissions

Species	1980	1981
Avian	647	918
Bovine	1,700	1,364
Canine	3,181	3,175
Equine	958	818
Feline	903	899
Fur Bearing	402	482
Ovine	682	659
Porcine	889	654
Bovine Mastitis	175	212
	9,537	9,181

The diseases seen in the laboratory during 1981 were largely similar to those seen during past years.

FUR FARMING

Fur farming is on the increase in numbers of producers, breeder animals and pelts produced. Although prices have decreased somewhat, the industry is still very strong.

Mink Ranching

Mink Ranching continues to be the most important section of fur farming in Nova Scotia. There are presently 177 licensed ranchers within the province keeping 66,000 breeder females. Digby County has the largest number with 64 percent of total breeders, while Pictou County has the least with 0.21 percent.

Total pelts exported this year were approximately 220,000, an increase of 10 percent over 1980.

The auction was held this year in Toronto at the new Hudson's Bay facility. The overall pelt average was approximately $36, down from $39 (8 percent) last year. The pelt price average has declined during the past three years. This can be attributed to economic conditions and fluctuations of foreign currency.

The farm gross for 1981 will be in excess of $8,000,000. This figure includes both pelt and breeding stock sales. Canada's total pelt production is in the vicinity of 1,200,000 pelts, with Nova Scotia making up approximately 18 percent of the total.

In Nova Scotia, the most common pelt produced is the dark, or black, which is known world-wide for its quality. Our local producers regularly top the sales with their dark mink and other mutations.

The Pathology Laboratory at the Nova Scotia Agricultural College continued to investigate and advise on disease problems. There were 95 submissions of 256 specimens for mink during 1981. Also, this lab has increased its capacity for Aleutian Disease testing. New equipment was purchased and put into operation during the summer. This has proved beneficial in increasing daily output. This is essential, due to the fact that large numbers are tested in specific time periods during the year (prior to pelting and breeding).

The total number tested for 1981 was 65,431, and 23,404 in the winter testing period of 1982.

Fox Ranching

Fox ranching has increased greatly in the past year. There are 123 licensed ranchers with a total of 1,662 breeders. The average number of females per ranch is 14, with the largest ranch having in excess of 200 females. Yarmouth County has the largest percentage of breeders, with 23.5 percent, while Hants County has the fewest with 0.18 percent.

The sale was held in February, 1982, at Hudson's Bay in Toronto. The top bundle brought $540, with an overall average of $280 for silver pelts. This is down $46, or 14 percent, from last year's average of $326.

The downward trend can be attributed to economic conditions. A total of 1,600 pelts were produced in Nova Scotia, up 69 percent from last year. This can be attributed to the progression of the industry, which is producing more pelts from large numbers of breeders retained from previous years.

Nova Scotia is the third largest producer of silver foxes in Canada, behind New Brunswick and Prince Edward Island. The fox industry grossed approximately $1 million in pelt and breeding stock sales in 1981.

Chinchilla Ranching

Chinchilla ranching is a small industry in Nova Scotia, with six licensed ranchers having a total of 400 breeding females. There is one full-time rancher at present in the province. Pelts are sold by auction in New York, and prices for the past year averaged $25–$30, with a top price of approximately $60.

MARKETING AND ECONOMICS BRANCH

OVERVIEW

Present and future agricultural marketing concerns in Nova Scotia are going to increase as we develop a more production-oriented approach to self-sufficiency — a noble objective for many commodities — and steps have been taken in the right direction.

The Nova Scotia Department of Agriculture and Marketing has always been production oriented; however, it is becoming increasingly important that greater emphasis be placed on marketing. This is going to require more marketing staff and greater funding to do the necessary programs.

There is a strong demand for increased self-sufficiency and a greater need to assist producers to achieve marketing objectives. For example, we recognize the need to transfer marketing technology to the farming public through applied research. A new marketing thrust has been used both to assist farmers to organize themselves and maintain the maximum share of the consumer dollar (from expanded production), as well as to have producers capture more of the value added returns by involving them in agricultural processing.

A marketing strategy has been developed by increasing knowledge of export marketing to overseas and United States markets. Also, market analysis programs have been increased by expanding market information availability to producers, analyzing factors influencing supply and demand and helping farmers to better understand factors affecting the marketplace. Marketing systems have been increased by more legislation, the greater use of the Natural Products Act and by the Natural Products Marketing Council, and to facilitate establishment of producer-controlled marketing organizations.

Greater emphasis has been placed on the food processing industry for new development, expansion and modernization. At present, there are 205 agricultural processing plants employing 6,000 people.

As well as creating new jobs, another long-range goal of the program is to replace imports. Nova Scotia agriculture has a golden opportunity to export many products over the next twenty years, but only if the industry aggressively works to capture those markets. Trade in agricultural products is growing rapidly, particularly in developing countries.

Export potential for two native crops, lingonberries and Chanterelle mushrooms, has been investigated, but follow-up potential volume surveys and studies must be made.

The export of Nova Scotia products to St. Pierre and Miquelon is increasing. Also, the export of processed vegetables to world markets has increased yearly. Carrot production and processing (slices and dicing) increased in 1981, and new sorting and grading machinery was added. Approximately 700 acres of carrots were planted and approximately 20 million pounds were harvested. Plans call for further acreage expansion in 1982.

A study entitled "Future for Nova Scotia Pork" was completed. Maritime pork marketing meetings were held to discuss current production (500,000 hogs = 50 percent consumption), processing and marketing. Pork marketing promotion was organized on a Maritime basis by Atlantic Plus.

MARKETING BOARDS

Nine commodity marketing boards operated in the province under the general supervision of the Natural Products Marketing Council. They were:

(1) Nova Scotia Wool Marketing Board, etablished 1947

(2) Pork Producers Marketing Board of Nova Scotia, established 1952

(3) Nova Scotia Chicken Marketing Board, established 1966

(4) Nova Scotia Egg and Pullet Producers Marketing Board, established 1966

(5) Nova Scotia Turkey Marketing Board, established 1972

(6) Nova Scotia Flue-Cured Tobacco Growers' Marketing Board, established 1973

(7) Nova Scotia Processing Pea Marketing Board, established 1980

(8) Nova Scotia Winter Grain Marketing Board, established 1981

(9) Nova Scotia Potato Marketing Board, established 1982

CO-OPERATIVES

Overview

Sales by co-operative organizations increased by $50 million in 1980 over the previous year, as reported in the 1980 Annual Report of Co-operative Associations.

Co-operatives are now a major economic force in the province of Nova Scotia and are set for significant increases in the years to come. Management is generally strong, markets are increasing, and economic conditions have, for the most part, put co-operatives in a strong position for the future.

Co-operatives now employ over 3,000 full-time employees, manage over 40,000 acres of forestry land, provide housing for over 1,000 families and market over 70 percent of the agricultural products of the province.

Agricultural marketing co-operatives continue to dominate the activity of co-operatives in Nova Scotia, accounting for over two-thirds of the sales and an equal percentage of the assets of all co-operatives. Over 80 percent of all farmers are members of a co-operative and market their products through an agricultural marketing co-operative.

This year, the highlights of the Co-operative Section were as follows:

(1) It hosted the 28th Annual Meeting of Administrators of Co-operative Legislation; 100 members and guests from across Canada attended the four-day conference in Halifax.

(2) The Scotian Gold Analysis by Paul Mohn and Dr. Leon Garoyan was significant to the province's fruit industry in its revitalization of this important co-operative.

(3) It sharply increased the number of co-operative housing projects in the province and the capital expended on them. We now have over 1,000 families in co-operative housing, with capital assets approaching $25 million.

(4) It developed and presented to the ADA II Committee a plan for the development of the human resources of organizations associated with the Department of Agriculture. This program is expected to achieve very positive results.

(5) It produced the updated and comprehensive *Directory of Agriculture* for 1981. This was the eighth year of publication of this highly valued and useful publication.

The mission statement quoted below has been adopted by the Co-operatives Section to explain why we operate as we do. This

statement forces us to look to the future and attempt to help co-operatives accommodate the economic forces in our society and allow our people to be more successful.

> "The Department of Agriculture and Marketing is primarily a Business Development Branch of Government which focuses its efforts in agriculture. The main thrust of its development activities are through teaching." (sic)

Traditionally, our role has been mostly administrative rather than future oriented. Co-operatives in Canada have made a serious effort in the past three years to look at the future and conditions that will affect co-operatives. We will be helping and encouraging co-operatives in this "Future Directions Project."

Support of Organizations

In the past few years, there has been a substantial increase in the number of commodity organizations. Nearly every commodity group now has an organization representing its interests as they relate to governments, marketing organizations, producers and the general public.

These organizations have dramatically increased their activities in the past few years to the point that the commodity associations affiliated with the Federation of Agriculture are now larger than the parent Federation. In fact, a couple have larger budgets than the Federation.

These commodity associations, together with marketing boards, commissions and ad hoc promotional groups, have a major impact on the agricultural industry in Nova Scotia. Many require incorporation assistance and, then, maintenance of their legal standing after they have become incorporated. This office has performed a major role in helping these organizations meet this legal requirement including incorporation, by-law amendments, audits and supplying yearly government submissions.

We hope to be able to help these groups to further develop their effectiveness through support and training in areas of parliamentary procedure, public speaking, board effectiveness, management principles, communications, secretarial help, president's support, etc.

Directory of Agriculture

The 1981 *Directory* was our most successful publication ever. The graphic artist made a major contribution to the book with a specially designed cover, lead-in page, section separations and title pages, and generally made the book more professional in appearance.

We consider this book to be one of the most valuable resources in the Department, especially for new people wanting to understand Nova Scotia's agricultural industry. Many people consider this to be probably the best marketing tool ever produced by the Department — people involved in market research, production planning, prospecting, personal selling, sales promotion, advertising, public relations, buying. All components of marketing are assisted by this directory.

GENERAL ECONOMIC ANALYSIS

The past year was characterized by an unusually large amount of very basic and thorough public consideration of agricultural issues. There were also numerous (external) policy changes of importance to the Nova Scotia industry. Agriculture Canada presented its "Agri-Food Strategy," which is a national industry development plan for the rest of the century . Studying and reviewing this strategy and the components of special relevance to Nova Scotia were undertaken to aid the determination and development of provincial positions and reactions. Similarly, in connection with the National Dairy Policy Review, the situation of the manufacturing and cream components of the Provincial Dairy Industry was studied and research papers on dairy policy were reviewed. A Nova Scotia submission was prepared.

Throughout the year, analysis and background information were prepared on a number of major, as well as on several minor, policy concerns.

Major Research Topics

(A) Input/Output Model

An input/output system of accounts for Nova Scotia Agriculture was prepared. This system is highly disaggregated, sectoring the industry into 22 commodity components and 5 other closely related sectors. For each sector, estimates were made of inputs utilized by source and outputs by destination. This system is now being used in a specially designed variation of the revised Nova Scotia Input/Output System to construct an agriculturally oriented model of the provincial economy. The model will provide information on the economic impact of agriculture and the different components of the industry.

(B) Feed Situation

A special Joint Federation-Department Feed Committee was appointed in 1981 to investigate the province's feed situation, and

the Department economist served this group as secretary and researcher. Virtually all aspects of the industry's circumstances pertaining to purchased feed were documented and studied.

General Economic and Statistical Services

Requests for industry information were handled from a wide variety of sources including Department staff, other Nova Scotia departments, industry organizations, universities, APEC, the general public and private business. (Generally, requests for information of a commercial nature are either current or would-be Halifax area concerns or from out of the province.) The preparation of information for general distribution was undertaken at a low level during the year.

AGRICULTURAL MANPOWER

General

Considerable changes have occurred in the method of operating the Agricultural Manpower Committee. The farmer representatives have insisted on taking a much more active part in the planning process than in previous years. They have been extremely active both as committee and sub-committee members and have involved the industry in the planning and development of the Farm Certificate Program.

At the same time, the sub-committee is also acting as an advisory committee to the Nova Scotia Agricultural College in the implementation of the Farm Certificate Program, funded by the Employment, Development and Immigration Commission under institutional training and industrial training. This is supplemented by a provincial contribution of $40,700.

As of the end of the year, the provincial budget and institutional training funds allotted to the Farm Certificate Program will have to be funded under the industrial training program for the remainder of this fiscal year.

The Agricultural Manpower Committee has spent some time in reviewing and experimenting with vocational training programs. Its thinking at the moment is that this committee should be developing vocational courses in co-operation with the commodity groups.

The success of a swine management course directed by an Advisory Committee from the swine industry indicates the Committee is moving in the right direction when the commodity organizations are involved in the education process.

The lowbush blueberry industry has undergone major expansion. New land has been brought into production, and new cultural

methods of fertilizing and weed control will double the yield from existing fields. A major program of training people at the supervisory level is necessary if Nova Scotia producers are to continue to expand this crop.

Farm Labour Pools are providing an excellent service to the farmers of Nova Scotia. They have been responsible for improving relations between the growers and harvesting crews and have introduced new workers into the apple and blueberry harvest crews.

The Pools are co-ordinating the efforts of many of the contractors and crew leaders in such a way that these crews have become much more productive throughout the harvesting season.

The lack of skilled labour is still a problem and the only solution is to train individuals through the Farm Certificate and Farming Technology Programs. Until wages in the agricultural industry are reasonably competitive, there will be a considerable loss of skilled employees to other industries.

With new programs such as Farm Certificate, there is an opportunity to effect an attitude change that farm employment is a desirable occupation and not just a stepping stone to becoming a farmer. Gradually we see an increase in the number of skilled workers, but as these skilled workers become available, more skilled jobs are created.

MARKET DEVELOPMENT

Market Report

The weekly *Market Report* continues to be an invaluable tool to many (1400) in agribusiness.

Market Update

The *Market Update* completed its first year of publication in 1981. Its general objective is to keep fellow Department staffers abreast of the latest happenings in the marketing field. Material is gleaned from various marketing periodicals. As well, marketing observations and happenings experienced by the Branch are reported.

Marketing Facts

This publication is issued at periodic intervals as subject matter becomes available. Unlike the *Update*, this deals with one subject only in fairly complete detail, so is a useful reference to be retained by the reader. Material is prepared and submitted by all members of the Branch.

School Milk Program

During the 1980-81 school year, 601 out of an eligible 655 Nova Scotia schools participated in this program, for a participation rate of 92 percent. The price of milk continues to increase periodically. After three years at the 10 cent level, another student price increase should be considered. With cans of soft drinks currently ranging from 45 to 60 cents, the equivalent price for 200 ml of milk would be 32 to 42 cents. Therefore, a suggested price increase to 15 cents to the student would still make milk very attractive.

Metric Conversion

This Branch continued to act as metric co-ordinator for the Department of Agriculture and Marketing. The specialist kept abreast of any progress toward conversion to the metric system in areas related to agriculture and, in so doing, acted as an information source for the Department and the private sector.

Chanterelle Mushrooms

During 1981, there was an emergence of the fledgling Chanterelle mushroom industry in Nova Scotia. The previous fall and winter, inquiries were received from a potential commercial shipper, Helross Products, as to availability of government assistance. In co-operation with Industry, Trade and Commerce, a trip to Europe was provided to representatives of this company. They did send eight or ten air-freight shipments of fresh product to West Germany and now are also examining methods of processing the product. At the moment, brining and in glass seem to be finding most favour.

Frozen Blueberries

As a follow-up to test marketing in Metro Halifax in 1980, we co-ordinated a province-wide promotion of frozen blueberries in October, 1981. This was done at the request of the Nova Scotia Blueberry Growers' Association. Again, Oxford Frozen Foods was the supplier and, again, the specially designed 10-pound box used in 1980 was used. There were 6,300 boxes thus sold during the week-long promotion.

Market Development

Our program of regular calls on growers, packers, wholesalers, retail outlets, processors and inspection services, as well as co-operation with federal and provincial horticulturalists, continues as an on-going part of our market development work and keeps us abreast of industry developments.

Our co-operation with grower groups in marketing matters and industry development continued and included participation in a number of annual meetings and extension sessions, including the Vegetable and Potato Producers Association, Nova Scotia Fruit Growers Association, Nova Scotia Strawberry Growers, Nova Scotia Greenhouse Growers and the Strawberry Short Course.

Market Research

In co-operation with Agriculture Canada, a preliminary study into the "Impact of Packing Local Apples to an Extra Fancy Grade" was prepared in response to a resolution of the Advisory Committee on Tree Fruits, a sub-committee of the Atlantic Committee on Crops. Our study found that industry interest in the market possibilities of Extra Fancy fruit justified a more detailed look into the economics of putting up such a pack. In addition, we found that there may be a greater net benefit in improving the current "Fancy or better" pack through waxing, better handling and more flexible packing equipment.

The preparation of the Branch's publication *Marketing Channels for Fruits and Vegetables in Nova Scotia* was completed. It is intended to serve as a source of information for marketing planning for potential or expanding growers.

Market Information

During the 1980 fruit and vegetable marketing season, it was becoming increasingly apparent that a serious lack of up-to-date market information existed at the grower level. This was particularly noticeable during the summer months when market offerings and, therefore, prices fluctuated on a daily basis. Work was started during the ensuing winter months to devise a simple system of compiling and disseminating daily information. The "Market Line" began operation on June 19 with the first arrivals of N.S. strawberries in Halifax. It was staffed by a summer assistant, who also compiled daily messages for the U-Pick "Harvest Line"; daily updating continued Monday to Friday through October 30. Response from growers was very positive and some 2,000 calls were received. We were told that including news from other markets was particularly useful due to the impact on local market action.

Commodities

Blueberries. The lowbush crop is estimated at 12.87 million pounds, a substantial increase (55 percent) over 1980's 8.3 million pounds, with a farm value of 48 cents per pound.

The demand for the wild lowbush blueberry continues to be

strong in Europe and Scandinavia due to the high quality image of the product and its suitablility to further processing. Short bilberry crops in Eastern Europe and Scandinavia in the past two seasons have further enhanced the demand for our product.

Steady growth continues in the Far Eastern market.

Our attendance at the Anuga Food Show in October provided valuable insights into the workings of the international market.

Vegetables. The favourable growing conditions in early summer led to "on-time" marketing of seasonal vegetables, a welcome change from the season of 1980, which was delayed by cold weather.

The development of markets for some local seasonal items is hampered by the two-fold problem of inadequate supply and the ease with which volume shipments can and are brought in from other areas. Corn continues to be the crop perhaps in most need of development, however. Poor pest control and inadequate cooling result in broad variations in quality and a competitive disadvantage against the cheap, hydro-cooled product that arrives in truckload lots from central Canada. The same problem of inadequate supply to approach large distributors holds true for the leafy crops — local lettuce, bunched vegetables and the like — competition for many of which arrives from the larger markets in mixed truckloads to be sold to retail chains.

Promotion

Comprehensive media and general advertising packages were formulated for a broad client base in 1981. These packages were tailored to the individual client and used television, radio, newspapers, exhibits, direct mail, and/or point-of-sale materials.

A newspaper campaign was established for the Nova Scotia Department of Agriculture and Marketing in the fall of 1981, developed by Clarridge House Advertising, using the theme "It's In Our Nature To Have The Best."

HORTICULTURE AND BIOLOGY BRANCH

OVERVIEW

The horticultural industry strengthened and expanded again in 1981. Leading this development was the blueberry industry, with the largest recorded crop in the long history of production in Nova Scotia. A major accomplishment for the blueberry industry this year was the establishment of a Blueberry Institute. This development involves representatives from the Nova Scotia Blueberry Producers' Association, the Agricultural College, Agriculture Canada and the Horticulture and Biology Branch. Developments within the greenhouse sector have led to stabilization for this sector, with increased production per unit area and the utilization of waste wood by a fairly large percentage of the industry. A demonstration vegetable project at Glace Bay, utilizing hot water effluent from the heavy water plant, has been successful.

The tree fruit sector was encouraged by the relatively few trees lost during the very severe conditions in December of 1980, which led to widespread losses in Eastern Ontario, Quebec and New Brunswick. High juice prices had a price stabilizing effect on the fresh fruit market.

Strawberry acreage continues to increase throughout the province, and nursery production is expanding.

Vegetable production was about average and processing crops continue to be competitive with those grown in other parts of Canada.

Landscaping projects have decreased slightly but interest in home gardening and do-it-yourself landscaping has never been stronger.

The beekeepers in Nova Scotia had one of the best years in history. Yields of honey were at record levels and average production per hive surpassed Quebec, Ontario, New Brunswick and some western provinces. Demand for hives to pollinate blueberry fields was strong.

Assistance policies have helped rebuild the maple industry. New producers are entering the business while others are expanding. The use of reverse osmosis technology has helped reduce costs and allowed for expansion without an increase in evaporator capacity.

APICULTURE

This year was an exceptional year for honey production. The average yield was estimated to be 43 kg per hive, a record for the province.

Total honey production was 286.4 tonnes at an average price of $2.30 per kilogram, giving an overall value of approximately $660,000.

Packaged Bees

A total of 3,681 packages of bees were brought in from Florida and Quebec, with 2,404 being two-pound and 1,276 three-pound packages. A total of 1,357 extra queens were purchased, of which 500 were 'Buckfast' queens from Weaver Apiaries, Navasota, Texas.

Of the total packages ordered, 704 were flown in by air express. While the packages arrived in excellent condition and at lower cost, several factors make this an impractical means of transport. These include scheduling difficulties and locating a supply of packages adjacent to airports in Florida. We now know the limitations and capabilities of this means of transportation.

Wintered Bees

An estimated 2,000 hives were wintered in 1980-81. This represents a decrease in the number wintered in the previous year. If Nova Scotia beekeepers are going to become self-sufficient, the problem of providing queens for early spring replacement and splitting of hives must be overcome. One solution is to overwinter queens. It has been shown that queens can be successfully wintered on top of regular hives. In this trial, queen nucs were designed so that when two are placed together, they form a unit the same size as a regular hive body. Six of these units are being overwintered on top of double brood chamber hives.

Pollination

Conditions for pollination in tree fruit and blueberries were generally good this year. A total of 1,331 hives qualified under the Transportation Assistance Policy. It was suggested at the Beekeepers' Annual Meeting that this policy was no longer necessary and that the money should be directed toward apicultural research.

One hundred thousand alfalfa leafcutter bees were brought in from Manitoba to determine the practicality of alfalfa seed production in Nova Scotia.

Yields from the alfalfa of about 50 pounds per acre are well below commercial production requirements of 200 pounds per acre. However, production was zero the year before when honey bees

were used as pollinators.

Honey Crop

The honey crop from clover and knapweed was good in most areas. The South Shore experienced wet weather throughout most of July. Goldenrods started blooming early in August and produced abundant nectar. The goldenrod honey was unusually light in colour as a result of the heavy nectar secretion. One source of nectar that is not being fully utilized is wild raspberry. The honey from raspberries is very light in colour and of high quality.

Disease

American Foulbrood (A.F.B.) continues to be a problem, although the incidence does not seem to be increasing. Most cases seem to involve hobby beekeepers, who were not aware of the symptoms of A.F.B. European Foulbrood was more common this year. This disease tends to show up when colonies are stressed. Chalkbrood seemed to be less of a problem, although it is probably more widespread than is reported. Disease inspection is carried out mainly on request and, therefore, it is difficult to make an accurate assessment of the disease situation in the province.

Bear Damage

The amount of damage by bears was down this year. A total of sixteen hives were reported destroyed and an additional twelve damaged. Four fences were supplied to the Department of Lands and Forests in the Parrsboro area. These were set out in the blueberry fields. There were no penetrations of the fences by bears. The reaction of blueberry growers and beekeepers to the use of portable fences has been excellent.

APPLE MAGGOT CONTROL

There was another decrease in the amount of apple maggot infestation found in 1981. It has been speculated that this decrease can be attributed largely to a number of heavy showers which, in all probability, washed honey dew off the leaves, resulting in little or no food for the adult flies. Also, the switch from lead arsenate to Cygon, the use of apple maggot traps and a private monitoring service have increased the effectiveness of controls in recent years.

Survey results for the past seven years are given in the following table:

	1975	1976	1977	1978	1979	1980	1981
No. of Registered Growers	313	289	285	338	326	272	268
No. of Orchard Blocks	933	881	872	885	858	755	756
No. of Infested Blocks	261	322	370	283	284	144	124
Percentage of Orchard Blocks Infested	27.0	36.5	42.4	32.0	33.1	19.1	16.4
Percentage of Contacts Infested	39.0	41.0	56.0	47.0	49.0	39.0	31.0

BERRY CROPS

The 1981 season for berry crops, excluding lowbush blueberries, resulted in increased production, except for strawberries and highbush blueberries, and greater returns to the producers for all crops. These crops grossed Nova Scotia growers $2,978,431 in 1981, an increase of $244,044 over 1980 returns.

The strawberry fruit crop suffered a 30 percent drop and the highbush blueberry crop a 55 percent drop due to winter conditions. The strawberry nursery business showed a 42 percent increase, while cranberry production showed a 35 percent increase over the previous year.

Production and Value — 1981

Fruit	Production		Price	Value ($)
Strawberries	2,800,000	quarts	0.71	1,988,000
Highbush Blueberries	134,000	pints	1.28	171,520
Cranberries	405,700	pounds	0.65	263,705
Raspberries	80,000	pints	0.90	72,000
Grapes	9,000	pounds	0.30	2,700
Strawberry Nursery Plants	9,113,325	plants	0.05	455,666
Raspberry Nursery Canes	108,000	canes	0.23	24,840
Total				2,978,431

Strawberry

The Nova Scotia strawberry crop is estimated to have been 2.8 million quarts in 1981. The total fruiting acreage of 830 acres rose 100 acres over 1980. While most growers reported an average decrease of 30 percent in yield, the 1981 volume is down only marginally from the 2.9 million quarts crop of 1980. The increased acreage accounted for the slight difference in volume. Winter climatic conditions were the contributing factors for decreased yields. The strawberry season started ten days earlier than expected and, consequently, with a smaller crop, ended about ten days earlier than average. The distribution of the 1981 strawberry crop was as follows: U-Pick, 70 percent; Nova Scotia fresh sales, 21.4 percent; other Canadian provinces (fresh), 6.1 percent; processing, 2.5 percent.

Cranberry

The 1981 cranberry crop of 405,700 pounds was up 35 percent over the 1980 crop of 300,000 pounds. Cranberry quality was excellent and the fresh price was strong at 70 cents per pound wholesale. A small percentage was directed to processing at about 38 to 40 cents per pound. Improved cultural practices, good management, increased production potential from new bogs and upgrading of older bogs resulted in increased production. One producer, to keep in line with import competition, changed the package size from the 16-ounce to 12-ounce poly bag.

Highbush Blueberry

The highbush blueberry crop was estimated at 130,000 pints, down 55 percent from the 1980 crop of 300,000 pints. Winter climatic conditions were the major factors for decreased yields. The fruit buds were killed and were replaced with leaf buds. The Pick-Your-Own price was increased from 60 cents to 75 cents per pint; the local fresh price was static at 90 cents to $1.10 per pint, while the United States price reached an all time high of $1.75 per pint wholesale in U.S. funds. Approximately 64 percent of the Nova Scotia crop was exported.

Raspberry

Raspberry production is estimated to have been 80,000 pints, up 4,000 pints from 1980. Production is largely home garden, with an increase in U-Pick operations and a limited quantity directed to the fresh market. The 1981 U-Pick price remained in the range of 75 to 90 cents per pint; the local retail to grower price was in the $1.25 per pint range, with one roadside market to grower price of $1.45 per

pint. One operator was receiving $1.25 per pint picked up at the farm.

Grapes

The first local cottage wine industry was established at Grand Pré, Kings County, in 1980. Grapes produced by Pré View Gardens in 1980 were sold to Grand Pré Wines. The wine from these grapes, along with a portion of wine from the 1981 crop, was sold through the Nova Scotia Liquor Commission Specialty Store, Halifax, in late October and early November. This is the first time in the history of grape growing in Nova Scotia that wine produced from Nova Scotia-grown grapes was sold through the Nova Scotia Liquor Commission.

Lowbush Blueberries

Nova Scotia's lowbush blueberry crop for 1981 was a record 12,866,140 pounds. The previous record was 11,600,000 pounds in 1978. The excellent crop is attributed to the effects of two good growing seasons, improved cultural techniques and field management, and an ever-increasing acreage base. With the increased acreage in production each year, the improved management of fields, and the introduction of new herbicides and cultural techniques, it is expected that the province's annual production will remain in the 12 to 15 million pound range over the next several seasons.

The field price this year was 48 cents per pound, and the farm gate value of this year's crop was $6,175,747. The total value to the provincial economy was $13,000,000.

Despite record production of both wild and cultivated blueberries in North America this year, the market has remained strong. This is due to increased promotion in North America and a strong off-shore demand from West Germany, Japan and Scandinavia — markets developed during the past six years by processing firms in Nova Scotia, with the assistance of both the federal and provincial governments. Nova Scotia processors have sold all the 1981 processed crop at good prices, thanks to their promotion and market development work and their detailed attention to building and servicing established overseas markets.

Nova Scotia processing plants handled a total of 14,795,926 pounds of blueberries this season. Fresh berries imported for processing in Nova Scotia totalled 3,657,154 pounds: 2,039,926 pounds from New Brunswick; 1,030,304 pounds from Maine; and 587,570 pounds from Prince Edward Island. Fresh shipments out of the province for processing in Maine totalled 1,727,368 pounds.

New acreage continues to be cleared for production. In 1981, a total of 836 acres were cleared with help from our Department's Lowbush Blueberry Land Clearing Assistance Policy.

GREENHOUSE

The area of greenhouses has remained relatively constant for the past three years, with approximately 18 hectares used for commercial production. Sales per square metre continue to increase, reflecting higher productivity and improved prices for greenhouse products. There are about 85 commercial operators, with approximately 30 producing vegetable crops and 80 reporting sales of bedding plants and flowers. In terms of area devoted to the production of various crops grown in greenhouses, there has been little change.

Crop	Area (hectares)
Forestry Seedlings	0.60
Bedding Plants	3.25
Greenhouse Vegetables	4.00
Pot and Foliage Plants	3.25
Cut Flowers	6.90

Alternate energy sources and energy conservation continue to be foremost in the minds of growers. Between 30 and 40 percent of the greenhouse area has now been converted to alternate energy sources, mainly burning wood. Heat curtains, double-layer coverings and increased insulation have been installed in a large area of greenhouses. Those growers who have converted to wood or achieved considerable improvement in the efficient use of energy are facing the future with optimism.

Increased production per unit area is also important and has been achieved by installing rolling benches, and building greenhouses in blocks, rather than as individual houses.

The waste heat demonstration project at the Glace Bay Heavy Water Plant continued. There are two main crops grown at the greenhouse — tomatoes and cucumbers. There are also two soilless growing methods used — the peat culture method and the hydroponic (N.F.T.) Nutrient Film Technique.

MAPLE SYRUP

During the summer and fall of 1981, considerable expansion took place in the industry. The result of this expansion will be seen in

future production.

Four new operations have been developed and will begin producing maple in 1982. Also, several operations have been modernized and expanded.

Technical advances are continuing rapidly in the maple industry. One of the most important developments in recent years has been the Reverse Osmosis Machine to concentrate maple sap. Reverse Osmosis has been used for years in various industries but was never adapted to maple production until recently. 1981 was the first year these machines were made available to commercial maple producers. Reverse Osmosis machines are expensive but, once acquired, save the maple producer both in energy costs and labor costs.

In 1981, 63 commercial maple operations produced maple products for sale in Nova Scotia. Each produced an average of 916 litres of pure maple syrup from 2,110 taps.

The number of taps in maple trees in Nova Scotia increased substantially this year. The yearly increase was the largest since we began to record statistics on the industry in 1973. The percentage of taps on plastic tubing rather than buckets continued its yearly climb, but is slowing and will stop as it nears 100.

The 1981 maple season began very early, with the first boilings reported on February 22nd. Sap runs were good early on but tapered off. Overall, production was better than last year but still only average.

Again, producers using buckets seemed to fare poorly. Poor seasons were experienced by others also, especially those with north-facing slopes and higher elevations. There was little frost in the ground and the sap ran when the temperature was just above freezing.

Production

	1975	1977	1978	1979	1980	1981
Total Litres Produced	26 618	50 746	43 534	59 150	42 315	57 700
No. of Taps/ Litres of Syrup	2.51	1.85	2.33	1.80	2.64	2.30

The amount of pure maple syrup used to make other maple products in 1981 was 13 560 litres. Therefore, the amount sold as pure maple syrup was 44 140 litres.

ORNAMENTALS

1981 was a surprisingly good year for the nursery trades, sod growers and the home gardener.

Nursery sales began very early, slackened with the cold spell, then recovered in late May. Sod acreage increased. Competition increased in the market place, prices rose 10 percent, recreational turf uses expanded and the Historical Gardens at Annapolis Royal were opened.

Garden Centres had a slightly slower year because of the cold weather weekends, and the largest bedding plant grower went bankrupt.

Plant propagation increased at several locations in Nova Scotia, but Spruce Arbor Ltd., Sussex, may become the major supplier for the region with modern facilities.

The seed chemical and garden supply sales outlets had a good year and garden tillers headed the list of increased machinery sales, reflecting the continued interest in home gardening.

The export of sod and shrubs increased with some penetration of the chain store market. Fourteen growers farm 1,750 acres of sod land and production is increasing. About 750 acres were sold in 1981, with a value exceeding $2 million.

VEGETABLES

There was moderate development in the vegetable industry in 1981. The total value of the industry was estimated at $10 million at the farm gate from 140,000,000 pounds of marketable yield (63 500 000 kg).

1981 was a good year for vegetable crop growth in general, and the Nova Scotia crop was probably 10 percent above the average of the previous five years. The following table shows the acreages:

Approximate Rank In $ Value	Nova Scotia Vegetable Acreage, 1981		Acreage Change from 1980
	Fresh beans	60	-10
	* Beets	150	+ 10
7	* Cabbage	300	0
2	* Carrots	1,100	+ 200
9	Cauliflower	80	+ 10
8	Sweet corn	550	+ 50
	* Cucumbers	140	+ 20

(Continued)

Approximate Rank in $ Value	Nova Scotia Vegetable Acreage, 1981		Acreage Change from 1980
10	Lettuce	70	0
	Parsnips	80	+ 10
6	* Tomatoes	140	+ 10
4	Rutabagas	360	+ 10
		3,030	+ 320
	(*Source* — Statistics Canada)		
5	* Processing peas	1,650	+ 100
3	* Processing beans	2,360	+ 200
	Pumpkin and squash	80	
	Baking beans	120	
1	Potatoes	4,000	0
	** Miscellaneous	100	
		11,340	+ 620
	(*Source*—best estimate of vegetable specialist)		

* Includes processing acreage or is totally processed.
** Onions, broccoli, herbs, spinach, etc.

TREE FRUITS

General

The 1981 growing season again had its challenges for the tree fruit growers. A low temperature of -23°C on December 26, 1980, resulted in significant injury to fruit trees. Growers were fortunate that the injury was not as extensive as experienced by those in Quebec, Eastern Ontario and New Brunswick.

Apples

In response to a survey, growers indicated that they had lost 2,806 apple trees due to winter injury, with an additional 2,095 being injured. As only 59 growers responded to the survey, it is felt that likely 3,000 to 3,500 apple trees were actually killed. It is also felt that the number of trees injured was much higher as injury to the cambium was not evident and trees did not show signs of stress during the growing season. The number of trees injured would be higher than those killed, so a figure of 4,000 to 5,000 trees would be more realistic.

Growers did not become aware of the winter injury until

bloom, at which time trees and limbs began to die. Tree death was due to cambium injury on the main trunk and lower scaffold limbs. Some injury to fruit spurs was observed on Gravenstein and King varieties. Bark splitting was observed on trees with injury on the trunk.

Pears and Stone Fruit

As a result of winter injury and spring frost, stone fruit production was significantly reduced. The plum crop was estimated to be 3,000 bushels, down 7,000 bushels from the 1980 crop. Plum production was mainly of the prune type. The sweet and sour cherry crops were also reduced. Local peach production was non-existent, and growers reported the loss of over 300 trees due to winter injury.

The pear crop, estimated at 85,000 bushels, was the only tree fruit showing an increase in production. The crop was the highest to be recorded over the last 46 years. Growers once again were able to move their pears readily on the fresh fruit market, so once again the processing sector lacked a sufficient supply.

Processing

Prices paid for juice and peeler apples rose sharply this year due to the disastrous crop in Quebec and Southeastern Ontario. The shortage of juice apples in Quebec resulted in Quebec firms recruiting juice apples in Nova Scotia. Some growers took advantage of higher prices, and permits were issued for the shipping of approximately 400,000 pounds of fruit to Quebec.

Census

An apple and pear tree census was completed this past season updating the 1973 tree fruit census. The current number of apple trees in the Annapolis Valley is placed at 838,532, a 49.5 percent increase over the 1973 assessment of 560,902. There has been a shift away from processing cultivars to fresh and dual-purpose cultivars. The highest percentage increase of an individual cultivar was Idared, which increased 361.3 percent, from 8,163 trees in 1973 to 37,654 trees in 1981. Cortland, another dual-purpose, had the second highest percentage increase — 98.3 percent — from 50,863 to 100,844 trees. Processing cultivars such as Wagner, Russett, Rome Beauty, Ben David and Baldwin decreased in tree numbers by 11 to 26 percent.

The number of pear trees increased by 22.3 percent, going from 50,140 to 61,309. Clapps Favorite and Bartlett account for the majority of pear trees, 84 percent. Stark Crimson (403.1 percent) and Anjou (157.3 percent) showed the largest percentage increases over the 1973 census.

EXTENSION BRANCH

OVERVIEW

The role of the Extension Branch is to provide a well-balanced effective extension program that meets the needs of the commercial farmer, the part-time farmer and the rural community generally. It is important to provide for good communication between other divisions in the Department, other departments of government, agribusiness, the Federation of Agriculture and the various agencies involved in agriculture, both provincially and federally. The various sections of the branch work to varying degrees in the areas of education, demonstration and service. The Branch is responsible for administering five policies in addition to regular extension work.

AGRICULTURAL AND RESOURCE DEVELOPMENT REPRESENTATIVES

Agricultural Representatives (18) and Resource Development Representatives (2) provide a general advisory service to producers on production and marketing of crops, livestock, livestock products, farm management and credit.

County or area agricultural offices are found in 14 strategic locations throughout the province. An office may provide a work base for only one representative; more commonly, however, it provides a headquarters for other workers, many of whom are specialists in a particular agricultural discipline, Home Economists or 4-H Representatives. Whatever the circumstances of members or workers, the Agricultural Representative is responsible for the day-to-day office operation and much of the work co-ordination desirable between workers.

The role of Agricultural and Resource Development Representatives is actually three-fold. Firstly, they are responsible for identifying agricultural education needs within their area and developing educational programs to meet these needs, thus bringing about desirable change. Secondly, they are responsible for keeping farm and rural populations informed of all Nova Scotia Department of Agriculture and Marketing policies and programs. They also become involved in the delivery of some of these programs. Thirdly, they participate in the provincial departmental committees and programs, as required, to effectively develop and administer these important programs.

The regional organizational approach was again effective for good planning and administration. Each of the three regions is headed by a Regional Agricultural Representative who, in his duties, co-ordinates and plans for regional activities and generally acts as a senior authority and team leader related to county office activity.

FARM MANAGEMENT

Through individual contacts, extension and education programs, the Farm Management Division's primary objective is to assist in the development and promotion of the farm business management skills of Nova Scotia farmers, farm organization leaders and the Department of Agriculture and Marketing staff. The development of business management skills provides the agricultural industry in Nova Scotia with highly trained and motivated business-oriented farmers and farm leaders, capable of managing and organizing efficient, viable farm units.

Professional staff are concerned with serving the needs of individual farmers. This is accomplished through individual farm and office calls, group meetings, short courses and mass media. In addition to individual farmer needs, professional staff have worked closely with a number of farm organizations to provide requested information and expertise to these groups. Technical and clerical staff play a key role in the Division by providing assistance to professional staff. While the technical and clerical roles do not receive the publicity and recognition afforded professional staff, they are, nevertheless, fundamental to the success of the Division.

Farm Management, by definition, is concerned with all decisions that affect the profitability and viability of our farm businesses. We have placed major emphasis on the business management aspect of the total farm management field. However, this does not preclude a working knowledge of other sectors of the farm management discipline and other sectors of the agricultural industry. Collectively, our staff members have a wide range of knowledge and experience in most agricultural production areas.

Management decisions imply that a choice must be made. Sound management decisions require up-to-date, reliable information as a base for making the right choice. This Division has been instrumental in creating an awareness of the need for sound information and, in part, for supplying a portion of this information base. Information on management factors, efficiency ratios, financial and production data has been developed and distributed to agricultural producers and department staff by our Division.

As indicated before, the primary emphasis in our Division is on farm business management, with the primary producers of Nova Scotia as our main clientele. The major thrust of our programs and activities is to provide information and guidance that assists our clients in reaching decisions that affect the profitability and viability of their individual farms.

In this report, we have attempted to separate our work into various program and service areas. While these areas appear separate in this context, in actual practice the distinction is not nearly so clear.

Farmer Counselling

We have identified our clientele as being the primary producers of Nova Scotia. The types of programs, services and activities carried on with producers are discussed in some detail below.

Individual farmer contacts play a major role in our work, be they calls at the farm or farmers coming to our office. A total of 798 farm and office calls were made by staff during 1981. Of this total, 337 were concerned with record systems and analysis, while 186 were made with pre-loan counselling as the main objective.

During the 1981 year, staff prepared a total of 291 budgets and cash flows for individual farmers.

An indication of the respect for our staff is provided by the number of clients referred to us by others in the Department, and by bankers, lawyers and accountants. This total for 1981 was 246 referrals for advice and assistance.

Record Systems and Analysis. Farm records are of little benefit to the farmer unless they are used as an analysis tool by the individual. Record analysis then is the key element in our overall management program.

In the past, we have placed strong emphasis on getting farmers to keep records. Gradually, our emphasis has changed to that of making use of these records for management decisions.

As pointed out above, our staff members devoted a major portion of their time to assisting individual farmers in the analysis of their farm businesses. In total, our staff provided an in-depth analysis to over 300 Nova Scotia farmers. Specifically, 125 of these were concerned with the Dairy Farm Business Summary. In addition, 72 swine producers were provided with a detailed Business Summary of their operations. A number of other producers were visited, and a considerable amount of time was spent with them going over the records and business practices used in their farm businesses.

Individual farm and office calls formed part of an education program in record analysis. Additional work in this area came through the presentation of short courses and workshops at county and regional levels. In some instances, the farm record and analysis section formed a part of a broader based short course. While record analysis may be recognized as an important and essential part of the farm manager's job, adoption of this practice is slow.

Pre-loan Counselling. With increases in the amount of borrowed money being used by farmers in the 1980s, it is important that individuals recognize the difficulties that can result from borrowing large sums of capital. Interest in establishing new farm units and taking over existing units remained high in 1981. Large capital investments made with low equity positions on the part of new borrowers call for a high degree of management skills. These high-risk borrowers require additional assistance in the form of counselling.

With this group, we have placed major emphasis on total farm planning. From the goals and objectives of the farm family through the available resources of the farm family, our staff members have attempted to place the whole farm plan in perspective. We have made extensive use of computerized planning tools, such as the cash flow forecaster.

It is important for new entrants to agriculture to understand the financial, as well as the management, obligations they will face in the years ahead. With the low equity-high debt positions that many new entrants have, their ability to manage not only the production base of their farms but also the financial end of the business is extremely important.

Business Agreements — Tax Management. Most major decisions taken by the farm manager have tax implications. Hence, like the weather, income taxes are a source of current problems for the farm manager. In addition to the tax problems faced by farm families, interest in formal farm business agreements continues to increase from year to year. Our staff members have developed a degree of expertise in these areas over the past five to ten years. While our expertise has grown in this area, we see our role as one of providing information to farm families who have difficulties in the business agreement-tax management area.

In addition to farmers, accountants and lawyers utilize our knowledge and expertise in the business agreement-tax management area. While we have made a conscientious effort to shift much of the workload in this area into the accounting and legal professions, we still find that problems in this area are interrelated with many of the overall management programs faced by farmers.

Hence, while we continue to shift work to accountants and lawyers, we cannot completely divorce ourselves from work in this area. The tax and business agreement problems are real ones and must be considered in many of the management decisions faced by the farm operator.

We have attempted to work very closely with the family in outlining the advantages and disadvantages of various business arrangements and tax management alternatives available to the farm family. We feel this to be our role in this area. Detailed advice must come from those qualified to provide the farm family with expert knowledge. Hence, our role has been one of preparing the family to work very closely with its legal and accounting experts.

Credit Analysis. Over the past decade, we have seen a major shift in the capital and debt structures of our farm units. Along with rising capital investment has come greater use of borrowed capital.

Our work in this area is concerned with existing producers who have developed credit or cash flow problems with their existing units.

Increasingly, we are being asked to assist in evaluating the effect of change on the production and financial stability of farm units. If a farmer finds himself with more short-term debt than is covered by short-term assets, we are asked to find an alternative financial strategy that will enable him to meet debt obligations as they fall due. This work is very challenging and can sometimes be most difficult. Our effort in this area has been to work with the farm family to attempt to find financial packages that will permit the farm to continue to be part of the agricultural scene in Nova Scotia. Refinancing current and intermediate-term debt to long term can ease cash flow problems. The biggest difficulty is that once the current situation has been eased, we often find that farmers with limited management skills will very often jump back in with an equal amount of short-term debt. Additional revenue source or cost reduction techniques are also explored with these farm families. In most instances, the best that the farm family can expect is a very tight financial position for a number of years; the worst is the loss of the farm unit.

Financial Management. With increasing use of borrowed capital and decreasing equities in many of our farms that have been taken over by young or new farmers, financial management is a key to the success of the farm business. Financial management, combined with good production management skills, are essential components of any farm management package. Recognition by our staff of the need for increased emphasis in the financial management

area has led us into the planning and preparation of short courses and educational materials in this area. During 1981, our staff have prepared slide and written presentations in the financial management area. In total, ten packages have been developed to assist the farm family in planning and using financial records, acquiring credit and outlining the role of the farm manager in this financial management area.

Farm Planning Tools

The staff of the Farm Management Division made extensive use of computerized farm planning tools in 1981. These aids were used to assist in counselling, budgeting and analysis work with farmers. The planning tools are available from CanFarm via terminal on a fee-for-use basis. By using these aids, staff members are able to provide farmers with a more detailed comprehensive analysis of problems under consideration. By using the tools, the present staff complement has been able to provide a greater variety and number of services to our farmers than would be possible without the use of the computer.

Farm Record Systems

The cornerstone of the information system needed by the farm manager is the record system. The record system we suggest to farmers must not only capture the required financial information but should also have a section for a limited amount of production data. Both financial and production data are essential if the farm manager is to do a good job in analyzing his management skills. Essentially, we are involved with two broad types of record systems, namely, manual and computerized.

Manual Record System. Manual systems are many and varied, ranging from a simple scribbler to a complex double entry ledger. We are primarily concerned with farm account books that have been developed to provide some uniformity and standardization in the recording of financial and physical information. During 1981, we distributed 430 copies of farm record books either directly to farmers or indirectly through our Agricultural Representatives' offices. We have at our disposal the Farm Account Book, which is a single entry system designed for the small or part-time farm operator. Or, for those with a larger farm or requiring additional information, we have two double entry account books that are suitable for commercial farmers. These are the Ontario Farm Record Book and the Manitoba Farm Record Book. All are available from our offices on request by farmers.

Computerized Record System. Computer technology has

brought a number of computerized farm record systems to the forefront. Our Division supports the CanFarm Program. With the CanFarm Program becoming privatized, our role has been to serve existing clients and provide registration and services to farmers who wish to enroll in the system under our agency status.

In Nova Scotia, 20 percent of our farms that have gross incomes in excess of $25,000 are enrolled in the system, which is the largest percentage of any province in Canada. Even with the change in ownership and prices over the last three years, the number of Nova Scotia farmers in the system has remained relatively constant.

An outline of the registrations in CanFarm by county in 1981, with comparative data for the years 1976 through 1980, is given in the following table:

CanFarm Registrations — Nova Scotia by County, 1976-1981

County	Dec. '76	Dec. '77	Dec. '78	Dec. '79	Dec. '80	Dec. '81
Annapolis	14	17	22	12	9	11
Antigonish	20	20	18	17	17	17
Cape Breton	10	6	6	7	7	8
Colchester	29	30	34	27	33	29
Cumberland	12	10	10	8	12	12
Digby	1	1	4	1	1	1
Guysborough	1	1	—	—	—	—
Halifax - East Hants	3	13	14	12	18	23
Hants-West	13	9	11	9	9	10
Inverness-Victoria	21	23	25	24	23	23
Kings	37	53	54	45	51	46
Lunenburg	5	4	4	3	2	2
Pictou	15	18	20	15	18	15
Queens	—	1	2	2	1	1
Yarmouth	2	2	1	1	1	1
TOTALS	183	208	225	183	202	199

An integral part of our CanFarm Program and one of the main reasons for its success is our CanFarm Recorder Technician Service. This service, the result of an assistance policy of government, provides the farmer with the services of a Recorder Technician on a

cost-shared basis. The technician visits the farm and records the financial and production data in a standard prescribed manner, then mails the information to the computer for processing. The result of this service is up-to-date information for the farmer and a source of cost study information for our staff. We believe that this program has been quite successful in maintaining our numbers in the system and by the way in which farmers have accepted and made use of this service.

Educational Programs

In addition to the service function carried out by the staff, another important aspect is the educational role of the farm management group. We feel that our programs of developing record systems, financial statement analysis and business agreements have been quite successful. The next logical step is the utilization of these management tools to the betterment of the farm family.

Increasing emphasis has been placed on developing farmers' skills in the area of interpretation and analysis of the information contained in the record systems, using production information in the development of key economic indicators for comparison and analysis work.

During 1981, our staff participated in some 25 short courses and workshops reaching 400 to 500 agricultural producers in the province. We have stressed the need and importance of the management function and the increasing importance of the financial management aspect of our farm businesses. The basic management tools available to the farm operator have been enumerated and explained.

Management Information Program

The need for up-to-date, reliable management information related to costs, returns and production efficiencies has been increasing during recent years. In the Farm Management Division, we have identified one of our roles as a supplier of part of this information to our clientele.

In 1981, our division prepared and distributed a number of farm business summaries, production cost studies and farm management fact sheets relating to the farm business management area.

4-H & Rural Youth

The year 1981 was one of maturing in the 4-H Program. Existing programs were improved and a strong emphasis on leader and member involvement in program planning was developed. Our 4-H membership age was lowered from ten to nine years.

Nova Scotia 4-H Council

The Nova Scotia 4-H Council also has matured in its role in 1981. We further supported the St. Kitts Program by purchasing more 4-H supplies and sent two 4-H members to an agriculture training centre in Belize. The Nova Scotia 4-H Council held a "Future of 4-H" workshop at Camp Rankin from September 11 to 13. The participants projected the direction of 4-H programming for the next ten years.

During its five years, the Nova Scotia 4-H Council has become the policy-making and advisory arm of the Nova Scotia 4-H Program. It has been responsible for approving and initiating new programs in the 4-H Program.

Nova Scotia 4-H Show

The theme was "4-H and You — A Winning Combination," and that it was. The 1981 Nova Scotia 4-H Show was an entire break in tradition hosted at the Eastern Nova Scotia Exhibition Grounds, Antigonish. Antigonish County was an excellent host of this the largest and best show to date, with approximately 8,000 people attending. This show has grown to be a very professional presentation of 4-H in Nova Scotia.

Leader Training Events

Several approaches were taken in leader training for 1981. Gordon Jones, a Recreation Specialist from the United States, made two trips to Nova Scotia to teach key county leaders the fine art of social recreation. Training programs were held in January and November.

A Leader Development Course, dealing with "leader effectiveness," was held in February at International House, St. Francis Xavier University, Antigonish. We also had delegates attend from Newfoundland and Prince Edward Island.

Various evening programs were conducted on numerous topics where and when the need was expressed.

Statistical Report

Total No. of Boys	1,112	No. of Clubs	142
Total No. of Girls	1,680	No. of Senior Leaders	589
Average Age	13	Average No. of Years in 4-H	2.3

Projects

Crafts	1,296	Woodworking	317
Foods	331	Outdoorsman	162
Garment	292	Garden	234
Beef Calf	219	Light Horse (English, Western)	311
Dairy Calf	321	Others	680
Floriculture	80		

HOME ECONOMICS

Programs of the Home Economics Branch continue to fall into the three main categories of Food Education, Women's Institutes and 4-H. In addition, a large number of package programs are available to provide information on a wide selection of topics for home economics teachers across the province.

Food Education & Promotion

Food Extravaganza Shows became a highlight in programming this year. The shows included three hours of demonstrations featuring Nova Scotia foods. The pace was lively and generally five demonstrators plus two guests carried the full program to a sold-out crowd. The shows were held in Sydney and Bridgewater and their success is credited to the dedication of the local planning committees, which were W.I. in Sydney and W.I. and the Federation of Agriculture in Bridgewater.

"Johnny Appleseed Goes Metric" was the theme of our travelling mall display. People seemed to be glad to receive the metric information, indicating a change in attitude from former attempts to explain metric conversion.

The Garden Guide series was continued, with food preservation information covered on 30 tapes. It has been evaluated and is considered to be providing a valuable service to backyard gardeners.

Media work has continued to be an important aspect of the Home Economics program. Cable T.V. is opening up another area for media contacts and audiences.

"Food Products" and "Nutrition in Nova Scotia" binders supplied to Home Economics departments in schools were updated. Eighteen newsletters were developed and added to the binder in 1981. This has become a valuable resource to teachers.

Women's Institutes of Nova Scotia

The second Farm Women's Conference was a highlight of the year. W.I. co-ordinates this program with help from the Farm Management and Home Economics Divisions. This conference is definitely fulfilling a need, and we are proud that W.I. recognizes its importance and supports the program fully. A W.I. Branch has been formed in Mabou as a direct result of the Farm Women's Conference.

World Food Day was an area in which W.I. became involved with the Home Economics Division. The main purpose was to create an awareness of the world food situation. Hunger meals, films, lectures, poster competitions and displays were some of the activities branches carried out to recognize World Food Day.

Nutrition Month activities were part of many branch programs. Resource kits were developed and sent out to each of the branches for use in their programs.

The year 1983 will mark 70 years of W.I. in Nova Scotia. Plans are underway now for special activities and the convention. Women's Institutes are dynamic groups to work with. Their energy, creativity and enthusiasm make the organization as a whole a credible one.

4-H Programs

4-H is a very rewarding aspect of Home Economics work. The quality of the members' project work and the developments of the members themselves make it a pleasure to work in the 4-H program.

The sewing project is currently under revision and, by the fall of 1982, two new levels will have been piloted.

Food leaders do not seem to be having any problems with metrication, although recipes outside of the ones in the manuals tend to use Imperial measures. Food manuals have been totally metricated.

Home Economists are very involved with the Nova Scotia 4-H Show. Sub-committees plan competitions for the show, such as the fashion show, bake off, craft competition and the community quilt.

The 4-H program is a busy one; however, it's an important part of our total program and we learn as much by doing in most cases as the leaders and members.

SUMMARY AND PROJECTIONS

Times have changed, and so have programs that are designed to try and reach the ever-changing needs of the clientele. Staff update sessions and meetings are held twice a year to provide an opportunity to discuss concerns, plan programs and exchange ideas.

The financial management package is currently being developed. The staff is looking forward to this programming area and the contacts made through the Farm Women's Conference that will put this program to good use.

Food Extravaganzas, which were in the planning stage last year, are commonplace in programming now. As performances were sold out, it has been decided to do two shows in each location to give more people the opportunity to attend. It is important that commodity groups, program committees, local committees, government, etc., all work for the common purpose to make these shows successful.

EXTENSION AGRICULTURAL ENGINEERING DIVISION

The year 1981-82 as it relates to this Division was one of satisfaction. Although it was necessary for the Truro office to function in an atmosphere of confusion during the renovation of the building, the end result is well worth any inconvenience experienced. The entire staff is most appreciative of the new quarters. Even though many programs in which the division is involved were on a somewhat interim basis, a large volume of valuable work was accomplished, as the statistics outlined further in this report will indicate.

Contracts were awarded for the design and installation of an automatic control system on the sluice gates in the Avon River Causeway at Windsor. A project in co-operation with the province of New Brunswick was undertaken to prepare a history of dykeland in the Maritimes. This will be completed and ready for printing early in 1982.

It is satisfying to note the wide range of subject matter and projects in which this division is involved. This involvement is not only by direct responsibility for projects but also by way of co-operative effort in joint ventures with other disciplines. This has been very beneficial and productive for all concerned.

For the purposes of administration and to ensure that adequate services are provided, the work of this Division is divided into five program areas as follows:

Land Development

This section covers the administration of the Land Improvement Policy and provides technical services for land clearing, land levelling, drainage by surface ditching, underdrainage, land forming, and ripping and dykeland roads.

The work accomplished under this program is summarized as follows:

Number of Applications (initial plus supplementary)	1,500
Number of Farmers Participating in Program	993
Number of Part-time Farmers	233
Number of Full-time Farmers	760

Work accomplished on which subsidy was paid:

Land Clearing	4,331 acres
Surface Ditching	980,820 feet
Underdrainage	2,410,660 feet
Land Levelling	2,341 acres
Land Forming (dykelands)	1,126 acres
Land Ripping	19 acres

The province is particularly fortunate at this time in the number and capability of land improvement contractors available to provide services.

It can be noted that a change has gradually taken place in this program over the past six years in that the emphasis has changed from land clearing to land improvement projects. The underdrainage footage shown is the largest ever installed in this province in a one-year period. While land forming for several years was largely centered in Kings County, it is now being more widely used as a means of improving dykeland. Projects are now also underway in the counties of Annapolis, Hants, Colchester and Cumberland.

Land Protection Program	Feet
Dyke Topped	11,450
Ditch Excavated	49,650
Dyke Seeded	26,450
Ditch Spoil Levelled	52,600
Rock Placed	70,256

In addition to the above work, 2,100 feet of dyke were constructed at Annapolis Royal in support of the Historical Garden Project. Also, 800 feet of dyke were constructed in Truro in co-operation with the Municipality of Colchester to provide some easement of low-stage flooding in the Avon Street area of Bible Hill.

The Lawrencetown Main Outlet Drainage project was completed with the excavation of an additional 2,000 feet of ditch.

During the year, an aboiteau on the Onslow-North River Marsh owned by the CNR was constructed by our staff with the cost recovered from the CNR.

With the increased requirements for repairs to and replacements of aboiteaux, the search for more efficient techniques and materials is continuing. During the year, an aboiteau was constructed using a fiberglass sluice. This was a first, and the results will be observed with great interest. Also, investigations are ongoing to gain experience and information on other synthetics that

may be suitable for these purposes.

Farm Structures

The objectives of this program are to assist farmers in Nova Scotia to obtain good plans for renovating and constructing farm buildings and to assist in finding solutions to building-related problems. This process involves counselling, co-operating with other disciplines, maintaining an up-to-date knowledge of current management methods and materials and, finally, providing an acceptable plan for the building. Stock plans primarily obtained through the Canadian Farm Building Plan Service and plans drawn in the Truro and Kentville offices are those usually made available and used by farmers.

During the year, the farm structures engineers made 675 on-farm calls to deal with specific questions about structures. The following breakdown indicates the current level of activity in various production lines.

	Farm Calls
Dairy Buildings	197
Beef Buildings	65
Hog Buildings	145
Poultry Buildings	26
Manure Storages	93
Miscellaneous (sheep, rabbits, ventilation, silos, hay driers, etc.)	147

In addition to the plans that were supplied from the Canadian Farm Building Plan Service and other sources, 69 custom plans were drawn in the Kentville office and 73 in the Truro drafting office.

Although it was felt that there could be a decline in the plans for farm buildings during the year 1981-82, statistics indicate that a substantial increase took place over the previous year, which taxed the staff of four engineers and two draftsmen in meeting demands for service.

Farm Power and Machinery

It is generally agreed that an Agricultural Machinery Institute is urgently needed in the Atlantic provinces to adequately serve the needs of the machinery component of agricultural production. Under the auspices of the Atlantic Committee of Agricultural Engineering, a proposal for the establishment of such a facility was prepared and presented to the Atlantic Provinces Agricultural Services Co-ordinating Committee.

One of the functions of the program under this heading is to

support the functions of the Nova Scotia Farm Machinery Advisory Committee. This was done during the year by providing a secretary to this Committee.

Farm Crop Processing Engineering Program

This is a relatively new service provided by the Division and is proving to be highly valued by the agricultural industry. The objective of the service is to provide technical information to the industry in the subject areas of refrigeration, drying, processing and storage of farm crops, where this information is not readily available from the private sector. In addition, the engineer is involved with maintaining a source of information on alternate sources of energy that may be required by agriculture.

In the conduct of this program, 131 field calls were made. As a result of this activity, technical information was provided to 58 producers. This information varied from counselling to technical information to plans for structures.

Another activity of this program pertains to alternate energy sources and to energy conservation on the farm. The alternate energy sources on which information is being collected include such items as solar energy, methane gas, wind power and gasohol.

NOVA SCOTIA YOUNG FARMERS' CONFERENCE

The 1982 Young Farmers' Conference was held from February 16 to 18 in Kings County. Sixty-three young farmers (aged 19 to 35) attended this conference. This number included 60 young farmers from Nova Scotia plus a young farm couple and a government representative from Newfoundland.

Farm management skills were highlighted this year covering such topics as: "Priorities and Goal Setting," "Lease-Buying," "Machinery Selection" and "Managing with High Interest Rates." Other topics included: "First-Aid," "Farm Safety," "Innovative Energy Conservation," "Rural Beautification" and "Wills." In addition, tours were conducted of the Kentville Agricultural Centre, A.C.A. Poultry Co-op, Hostess Foods and Kennevale Farms.

The conference was well received by all participants. The social aspect of meeting new friends, talking with old friends plus a few days away from the farm were rated very highly and were generally considered to be as valuable as the formal sessions themselves.

Many people and organizations were instrumental in making the conference successful. These included the members of the Planning Committee, the individual speakers, both the Nova Scotia

Department of Agriculture and Marketing and the Nova Scotia Federation of Agriculture, both of whom helped sponsor the conference.

SOILS AND CROPS BRANCH

OVERVIEW

The Soils and Crops Branch is responsible for crop extension activities for all cereal and forage crops grown in Nova Scotia utilized either as human or animal feeds. Tobacco, which is grown entirely as a cash crop, is also the responsibility of the Soils and Crops Branch, and the Branch is responsible for expertise in six other major areas of activity:

(1) The Branch provides weed expertise for all crops and administers the Weed Control Act.

(2) Soils expertise is needed to serve all branches of the Department of Agriculture and Marketing, as well as other departments of government, i.e., Departments of Health, Forestry and Environment.

(3) Establishes coordinated criteria for land use planning as affected by Agriculture and other departments of government, i.e., Development, Transportation, Municipal Affairs, Lands and Forests and Tourism.

(4) Soil Survey, a section headed by staff of the federal government with funding from the Soils Research Institute of Canada, is supported in Nova Scotia with housing, including laboratory facilities, and two full-time agricultural technicians. Truro is now the central office for the Federal Soil Survey activities for the four Atlantic provinces.

(5) Provincial Chemistry Laboratory Services maintained at Truro serve all professional staff of the Department of Agriculture and Marketing, all farmers, market gardeners, greenhouse operators and homeowners in both soil and water sample chemical analysis and livestock feed sample analysis to determine the nutrient content. Plant foliar analysis service is provided to greenhouse operators and orchardists at a nominal cost. All other routine laboratory analysis services are provided free of charge to Nova Scotia residents.

(6) Administers a Pesticide Residue Analysis Service located at

the Kentville Agricultural Centre, which is cost-shared equally with the other three Atlantic provinces.

The Season

Once again field crop problems and successes during the 1981 growing and harvesting season were dominated by somewhat abnormal weather situations. Winter seemed to end when February average temperatures were 3°C to 5°C above normal, and the milder wet weather continued on into July.

Many fields of alfalfa and other legumes that survived the winter seemed to either succumb or be severely weakened by the prolonged wet spring. Weather systems were spotty and average conditions hard to define.

As a result, seeding and early harvesting of forage were difficult. Only because late July and early August brought prolonged sunny, but cooler, weather did cropping take on its normal pattern. By August 1, accumulated heat units were above normal and corn reflected early maturity; however, due to above normal rainfall, many cereal crops were exhibiting disease stress situations.

August was cooler, particularly at night, and early season gains in corn heat unit accumulation were lost to more normal values.

September was more normal in both temperature and precipitation, and harvesting proceeded on schedule with the total season ahead of normal in heat unit accumulation.

Cereal grains were severely affected by diseases and yields were disappointing. Forage crops were adequate in quantity for the winter. Corn was harvested without difficulty and at very acceptable yields and moisture levels both for silage and high-moisture grain storage.

Fall plowing was accomplished without extreme difficulties from a weather point of view and extended well into early December in many areas.

Trends

Acres of winter cereal crops, mainly winter wheat and fall rye, continue to expand. Grain assembly centers operated by the Provincial Grain Commission at Steam Mill, Nictaux and Bayhead received a total of 13 000 tonnes of local production; almost 12 000 tonnes were consigned to Marketing Pools.

Total acres of corn continued to decline, particularly for ensiling,as more farmers turned to haylage for their winter feed requirements. Rye grass for pasture expanded again under intensive management, as most farmers now have at least a small acreage.

Several seed companies are now employing "door-to-door" salesmen, who are, for the most part, well-regarded active or retired farmers. They are making a significant impact on farmers' cropping decisions.

Forage seed sales have continued to expand with some 150–175 tonnes of seed now being imported annually. No significant interest in local forage seed production has been evident to date.

There is an obvious desire among farmers to improve their livestock feeding programs.

Tobacco

A record yield per acre for a record price per pound made the 1981 harvest the most rewarding in the history of the Nova Scotia Tobacco Industry. On 603.5 acres, average yield was 2,218 pounds for a total crop marketed of 1.3 million pounds at an average price of $1.40 per pound. New varieties were credited with a large part of the 25 percent increased yield.

Seed

Three additional on-farm Seed Cleaning Facilities were established in 1981, bringing to 16 the number of commercial Seed Cleaning Facilities currently operating in Nova Scotia, eight of which have treating capability. There are also a few cleaners privately owned by farmers who do not wish to offer a custom service as must those who are given financial assistance under provisions of the Seed Cleaning Facility Assistance Policy.

Pedigreed Seed Grain Production in Nova Scotia (kg)

Crop	1977	1978	1979	1980	1981
Oats	101 075	184 904	121 200	81 720	110 235
Barley	80 971	79 440	156 906	66 950	157 673
Spring Wheat	40 747	64 840	37 040	11 824	4 091
Winter Wheat	60 853	147 601	121 940	183 963	166 420
Winter Rye	17 640	46 030	68 720	46 657	218 904
Soy Beans	—	—	17 367	7 167	—
Field Peas	—	—	—	26 520	3 520
TOTAL	301 286	522 815	523 173	424 801	660 843

FEED GRAIN PRODUCTION INCENTIVE LOANS POLICY

This was the first year in which some farmers were able to complete their obligations under Grain Loans granted in 1976.

A total of 43 loan obligations were met during the 1981 crop year. A total of 380 loans were in effect during 1981, and a total of 101 new loans were made during the period April 1, 1981 to March 31, 1982.

The Feed Grain Production Incentive Loans Policy came into effect in September, 1976 and by March 31, 1982, a total of 432 loans had been granted for a total of 18,174.5 acres of increased grain production. Expenditure under this policy to March 31, 1982, amounted to $1,363,087.50.

Farmers who received the 432 loans accounted for approximately 25,000 acres of grain production and represented about 48 percent of the total grain acres grown in 1981. Most of the loans given and almost 90 percent of the increased production have been in the counties of Annapolis, Kings, Colchester, Cumberland and Pictou.

FEED FACILITY ASSISTANCE POLICY

A number of farmers took advantage of the extension of this Assistance Policy for one additional year after the Agriculture Development Agreement terminated.

During 1981-82, 18 new grain-drying and 40 grain-drying and storage facilities were erected. A total of 36 new silo facilities were constructed (19 upright and 17 horizontal types), and 39 new hay drier fans were installed.

A six-year summary of facilities that received assistance under this policy is now possible.

Summary Feed Facility Assistance Policy, 1976-1981

	1976	1977	1978	1979	1980	1981	TOTAL
Grain Driers, Milling & Storage	83	99	50	63	71	58	424
Silos	67	75	56	54	64	36	352
Hay Driers	8	32	41	60	53	39	233